

K. OYSTER-TRADE OF NEW YORK CITY.

40. HISTORICAL SKETCH OF THE OYSTER-TRADE OF NEW YORK CITY.

HISTORIC OYSTER-FIRMS.—Most of the New York oyster-firms are of long standing, and the same names appear which are conspicuous in the oyster-annals of City Island and Staten Island, for these two localities have supplied the most of them. Van Name, Houseman, Silsbee, Wright, Burbank, Boyle, Frazer, Woglom, Decker, and others, are examples. Many of the gentlemen now conducting the business under these names only succeeded their fathers and grandfathers, who established the trade they enjoy. The growth of the opportunities of business, however, has been very rapid, and has brought in many new men, conspicuous among whom are George H. Shaffer & Co., of Fulton market.

VAN KORTLANDT'S TREASURE-TROVE.—When the sage Van Kortlandt, surnamed Oloffte the Dreamer, after his dreadful shipwreck in the goblin-haunted whirlpools of Hell Gate, had brought the remnant of his command to land on the southern end of Mana-hata, an island which divided the bosom of the bay, his first anxiety was for something to eat, for "Van Kortlandt was a devout trencherman". How he fared we learn from the veritable history of Diedrich Knickerbocker:

The stores which had been provided for the voyage by the good housewives of Communipaw were nearly exhausted, but, in casting his eyes about, the commodore beheld that the shore abounded with oysters. A great store of these was instantly collected; a fire was made at the foot of a tree; all hands fell to roasting and broiling and stewing and frying, and a sumptuous repast was soon set forth. This is thought to be the origin of those civic feasts with which, to the present day, all our public affairs are celebrated, and in which the oyster is ever sure to play an important part.

DUTCH OYSTERMEN OF NEW AMSTERDAM.—A historical retrospect of the oyster-business in New York city affords many interesting facts. In 1621 it was recorded in a letter to the old country that "very large oifters" were so abundant at New Amsterdam, that they could not be sold. "Oysters are very plenty in many places," asserted the traveler Von der Donk, in 1641. "Some of these are like the Colchester oysters, and are fit to be eaten raw; others are very large, wherein pearls are frequently found, but as they are of a brownish color they are not valuable. The price for oysters is usually from eight to ten stivers per hundred." The inference is, that every man could easily gather for himself all he wanted. That a few years of this sort of thing greatly enhanced their value, however, is shown by the fact that in 1658, the Dutch council, in making an ordinance against the cutting of sods in and about the town, found it necessary also to enact a law forbidding "all persons from continuing to dig or dredge any oyster-shells on the East river or on the North river, between this city and the fresh water". This "fresh water" was the pond which is now occupied by the leather district of the city, of which Spruce street is the center.

The digging of shells was for the purpose of making into lime, and also for the purpose of paving the streets, and in the course of dredging for them great quantities of living oysters were wasted. Pearl street received its name because it was paved with oyster-shells, which the Dutch called "garlen", and is the only street in the city, Judge Daly tells me, that retains its original name, all the others having been changed by design or accident, during the subsequent English occupancy.

In those early days the trading-place for oysters, as well as fish generally, was the "Strand", near the market-place. This was then an inlet which had been newly constructed into a graft or canal, where the sloops and canoes had a fairly good harbor and place to do business. This old "graft" is now the wealthy and speculative Broad street. At least as late as 1675 Indians regularly brought oysters to sell at this place in their canoes.

A little later, in 1671, Arnoldus Montanus speaks of "oysters, some a foot long, containing pearls, but few of a brown color".

In 1679-'80, Jaspas Dankers and Peter Slyter made a visit to the colony, and wrote an elaborate account of it, under the title: *Journal of a Voyage to New York*. This has been republished by the Long Island Historical Society, and contains a description which I should be sorry to omit in this connection, so vivid and warm is the sense of homely hospitality it conveys. The passage to be quoted is the ensuing, and refers to their first landing in the country:

We proceeded on to *Gouanes* [Gowanus, now in Brooklyn], a place so-called, where we arrived in the evening at one of the best friends of Gerritt, named Symon * * *. We found a good fire, half way up the chimney, of clear oak and hickory, of which they made not the least scruple of burning profusely. We let it penetrate us thoroughly. There had been already thrown upon it, to be roasted, a pail full of *Gouanes* oysters, which are the best in the country. They are fully as good as those of England, and better than those we eat at Falmouth. I had to try some of them raw. They are large and full, some of them not less than a foot long, and they grow sometimes ten, twelve, and sixteen together, and are then like a piece of rock. Others are young and small. In consequence of the great quantities of them, everybody keeps the shells for the purpose of burning them into lime. They pickle the oysters in small casks and send them to Barbadoes and the other islands.

This will recall the similar statement, in 1689, that pickled oysters were an established article of export from Boston to the West Indies. A few years later we find Peter Kalm writing out a full account of this trade, quoted further on.

EARLY LAWS.—The law of 1715, quoted above, was the first legal enactment designed to protect the oyster-beds of the harbor, after the Dutch ordinance of 1658, heretofore quoted. It was instigated by the common people of the city, to whom these mollusks afforded a very important means of subsistence, both for themselves and as an article of sale to the well-to-do, for the classing of oysters among luxuries was the device of a far later day. The law of 1715 was limited, in its effect, to five years. For ten years after freedom, which amounted to license, was had for New Yorkers, and then came the protective law of 1730. In the colonial documents there is found a note under the record of this law, which explains its necessity, as follows :

There was an act of this kind formerly past in this province, during the continuance whereof the Oysters encreased to that degree that the City of New York was constantly supplied in the proper season at easie rates, but since the expiration of it, the people being under no restraint, the Banks are almost destroyed. To preserve what is left, and to procure an increase is the design of this Act, which will be greatly to the advantage of this City, if it be duely observed.

That the theory of this preamble, if such it was, was not wrong, is shown by the testimony of Kalm, who wrote in 1748. Referring to the great quantities of fish in New York harbor, Kalm says :

Nor ought our vast plenty of Oysters to pass without particular Observation. In their Quality they are exceeded by those of no Country whatsoever. People of all Ranks amongst us in general prefer them to any other Kind of Food. Nor is any Thing wanting save a little of the filings of copper to render them equally relishing even to an English Palate, with the best from *Colchester*. They continue good Eight Months in the Year, and are for two Months longer the daily Food of our Poor. Their Beds are within view of the Town, and I am informed that an Oysterman industriously employed may clear Eight or Ten shillings a Day. Some Gentlemen, a few Years ago, were at the pains of computing the Value of the Shellfish to our Province in general. The Estimate was made with Judgment and Accuracy, and their Computation amounted to Ten Thousand Pounds per Annum. Their Increase and Consumption are since very much enhanced, and thus also their additional Value in Proportion. I confess it has often given me great Pleasure to reflect how many of my poor countrymen are comfortably supported by this Article, who without it could scarcely subsist, and for that Reason beg to be excused for the length of this Reflection on so humble a subject, tho' it might justly be urged, to the honour of our Oysters, that considered in another View they are serviceable both to our King and Country.

KALM ON ABUNDANCE OF OYSTERS IN 1748.—In another place Kalm returns to the subject in a way for which we ought to be grateful, for information upon our theme is rarely to be had from the early writers. He says :

ABOUT New York they find innumerable quantities of excellent oyfters, and there are few places which have oyfters of such an exquisite taste, and of so great a size: they are pickled and sent to the West Indies and other places; which is done in the following manner: As soon as the oyfters are caught, their fhells are opened and the fish washed clean; some water is then poured into a pot, the oyfters are put into it, and they must boil for a while; the pot is then taken off from the fire again, the oyfters taken out and put upon a dish, till they are somewhat dry; then you take some mace, allspice, black pepper and as much vinegar as you think is sufficient to give a sourish taste. All this is mixed with half the liquor in which the oyfters were boiled, and put over the fire again. While you boil it, great care is to be taken in fcumming off the thick fcum; at last the whole pickle is poured into a glass or earthen vessel, the oyfters are put to it, and the vessel is well stopp'd to keep out the air. In this manner oyfters will keep for years together, and may be sent to the most distant parts of the world.

THE merchants here buy up great quantities of oyfters about this time, pickle them in the above-mentioned manner, and send them to the *West Indies*: by which they frequently make a considerable profit: for the oyfters, which cost them five shillings of their currency, they commonly sell for a pistole, or about six times as much as they gave for them; and sometimes they get even more: the oyfters which are thus pickled have a very fine flavor. The following is another way of preserving oyfters: they are taken out of the shells, fried with butter, put into a glass or earthen vessel with the melted butter over them, so that they are quite covered with it, and no air can get to them. Oyfters prepared in this manner have likewise an agreeable taste, and are exported to the *West Indies*, and other parts.

OYSTERS are here reckoned very wholesome; some people assured us, that they had not felt the least inconvenience after eating a considerable quantity of them. It is likewise a common rule here, that oyfters are best in those months which have an *r* in their name, such as *September, October, etc.*; but that they are not so good in other months; however, there are poor people, who live all the year long upon nothing but oyfters with bread.

THE sea near *New York*, affords annually the greatest quantity of oyfters. They are found chiefly in a muddy ground, where they lie in the slime, and are not so frequent in a sandy bottom: a rocky and a stony bottom is seldom found here. The oyfter-shells are gathered in great heaps, and burnt into lime, which by some people is made use of in building houses, but is not reckoned so good as that made of limestone. On our journey to *New York*, we saw high heaps of oyfter-shells near the farm-houses, upon the sea shore; and about *New York* we observed the people had carried them upon the fields, which were sown with wheat. However, they were entire and not crushed.

THE *Indians*, who inhabited the coast before the arrival of the *Europeans*, have made oyfters and other shell fish their chief food; and at present, whenever they come to salt water, where oyfters are to be got, they are very active in catching them, and sell them in great quantities to other *Indians*, who live higher up the country: for this reason you see immense numbers of oyfter and muscle shells piled up near such places, where you are certain that the *Indians* formerly built their huts. This circumstance ought to make us cautious in maintaining, that in all places on the sea shore, or higher up in the country, where such heaps of shells are to be met with, the latter have lain there ever since the time that those places were overflowed by the sea.

OYSTERS IN NEW YORK IN 1755-58.—An intelligent writer gives a good article on fish and oysters, which is found in *The Independent Reflector*, November 22, 1753, a few years after Kalm:

Tho' we abound in no one kind of fish sufficient for a staple, yet such is our happiness in this article, that not one of the colonies affords a fish-market of such a plentiful variety as ours. Boston has none but sea-fish, and of those Philadelphia is entirely destitute, being only furnished with the fish of a fresh-water river. New York is sufficiently supplied with both sorts. Nor ought our vast plenty of oysters to pass without particular observation; in their quality, etc.

Oysters were still sold from vessels at Broad street, though the ancient canal was gone, up nearly if not quite to Revolutionary days, and perhaps later. In 1763 I find they are given as worth two shillings a bushel in New York, clams at the same time selling for ninepence per hundred. The favorites were "Blue Points" and "Sounds." The

most of them were eaten raw. A "stew" was an expensive luxury then, and the fancy styles of cooking in vogue now hardly heard of. Most of the venders were colored men; and the only oyster eating-houses, little cellars under the sidewalk, stalls in the markets—particularly the old Catherine market—or a little movable stand on a wharf.

A PICTURE BY WASHINGTON IRVING.—Washington Irving, in his *Knickerbocker's History*, describing a scene in New York harbor in 1804, says that in the universal repose of the afternoon "the fleet of canoes at anchor between Gibbet island and Communipaw slumbered on their rakes, and suffered the innocent oysters to lie for a while unmolested in the soft mud of their native banks".

NEW YORK MARKET IN 1825-'30 AND 1845.—Even as late as 1825-'30 the whole city supplied only custom enough for one wholesale establishment, according to the information kindly given me by Mr. Thomas DeVoe, whose historical knowledge in respect to New York city is widely known. Benjamin Story at that time kept a provision store at No. 64 Barclay street, and in the fall used to stow away in his cellar from two to five hundred bushels of oysters, which he would sell during the winter to the few eating-stands in Washington market or to grocers. Mr. DeVoe told me that the report at that time was, that Story fed his stock and so kept them alive; but how often, or with what pabulum, he could not say. Prices at that time, DeVoe remembered, were about two shillings and sixpence to three shillings (30 to 37 cents) a bushel on the boats which came to the city wharves; but Story sold his at from \$1 to \$1 25 a hundred in bad weather, when boats could not bring any.

In Watson's *Annals*, 1845, I find the following paragraph:

Mr. Brower * * * remembered well when abundance of the largest Blue Point oysters could be bought opened to your hand for 2s. a hundred, such as would now [1846] bring three or four dollars.

NEW YORK MARKETS IN 1853.—In the spring of 1853 there appeared in the *New York Herald* a series of articles on this trade in the metropolis, which bore the impress of accuracy to a greater degree than is usual in such communications. It asserted that then the oyster-trade might be called only thirty years old, yet that there were a thousand vessels, of from 45 to 200 tons, engaged in winter in supplying the dealers in Oliver slip and other depots with Virginia oysters. The value of these vessels, on an average, was \$3,000 each. This statement must, of course, have included all bringing southern oysters to any portion of New York bay, and, at best, seems exaggerated. "The crew," continues the account of these vessels, "is composed generally of four hands and the cook, and the monthly wages given to each person varies from \$12 to \$30 * * *. Unlike the fishermen of Fulton market, they do not own shares in the boats upon which they are employed."

The account continues:

The amount received for Virginia oysters, sold by the dealers in Oliver slip alone, is estimated at \$250,000 a year. This, however, is not more than one-third of the quantity disposed of in the vicinity of Catherine market; for the space in the slip is so limited that the business of the dealers is greatly retarded and cramped. In consequence of this the principal supply is furnished direct from the boats to the retail-dealers throughout the city. About \$500,000 worth of all kinds of Virginia oysters are sold by the boats, which, added to the sales of the dealers, make a total of three-quarters of a million of dollars. This is an immense amount of money, but it is not more than one-eighth part of the value of all the oysters sold during the year in this city.*

During the months of December, January, February, and March about \$500,000 worth are sold from the boats at Coenties slip. There are no scows or oyster-stands at this place, on account of the transient character of the trade there, and the dealers are consequently obliged to sell them off the boats. There are some days when from 20 to 30 vessels are in dock together, and * * * the wharf is thronged with wagons waiting to receive their loads, while the hands on the boats are straining every nerve to supply the incessant demands of customers. The business of the day commences about six o'clock in the morning, and continues until four in the afternoon.

Of East river oysters alone about \$500,000 worth is sold during the year in Oliver slip. The supply comes from Bridgeport, Norwalk, Greenwich, Stamford, Darien, Sawpits, City island, and a few other places along the western shore; and from Northport, Oyster bay, Lloyd's harbor, Huntingdon, Cold Spring, and Cow bay on the southern side. The largest proportion come from City island, where there are extensive artificial and natural beds, which furnish some of the best oysters obtained in the East river.

The reporter then mentions that of the 100 boats employed in carrying East river oysters to Oliver slip in 1853, 25 belonged to City island, where 100 families were supported by this industry. "The whole amount of property invested in the oyster-trade with this island," he states, "including the boats of the oystermen and of the dealers, the value of the beds, etc., is estimated at \$1,000,000. And this is not more than one-third of the whole amount invested in the entire trade of the East river."

The same writer mentioned that the annual sales of a single dealer in East river stock amounted in 1852 to \$100,000; and complained that the conveniences offered by the city to the business at Oliver slip was very inadequate, although a fee of \$75 a year was paid as scow-wharfage. He enumerated nine scows there then, valued at about \$4,000, total. These scows were 30 by 12 feet in dimensions, and would hold from 1,000 to 1,500 bushels each. Out of these scows, he says, is sold yearly about \$500,000 worth of oysters, exclusive of the amount bought from boats direct, which dealers estimate at \$1,000,000. "This estimate is derived from a calculation of the number of boats arriving during each year, and their capacity."

At Washington market, according to the same chronicle, there were at this time twelve scows, having a total value of about \$15,000. They had not even the scanty wharf accommodations vouchsafed at Oliver slip, but lay exposed so that they were knocked about by every high wind with great force, and damage was done which now

* Here, again, I should say the estimate was large—two or three times too high, at least.—E. I.

and then amounted to total wreck, and always caused bitter complaints against the city. The total sales in and about Washington market were estimated at \$3,000,000 annually, which, again, I must beg the reader to regard as an overestimate.

"It is only within the last five or six years," says this writer, "that the dealers commenced shipping in the shell, and at present a most extensive trade is carried on with Cincinnati, St. Louis, and several other western cities. Before this they were sent in kegs hermetically sealed * * * as far as California * * *. Pickled oysters are sent to every part of the United States by our dealers, and immense quantities are bought for shipment by vessels."

The recapitulation with which these newspaper reports closed is annexed:

Number of boats of all sizes (50 to 250 tons) in the Virginia oyster-trade.....	1,000
In the East and North river trade	200
In the Shrewsbury trade.....	20
In the Blue Point and sound trade.....	100
In the York bay trade.....	200
Total.....	1,520
Sales of Virginia oysters, including those planted in Prince's bay.....	\$3,000,000
East and North river oysters	1,500,000
Shrewsbury oysters	200,000
Blue Point and Sound oysters	200,000
York bay oysters.....	300,000
Total sales.....	5,200,000

OYSTER PANICS IN 1839 AND 1855.—In 1839 a law was passed prohibiting the sale of oysters in New York from May 1 to September 1. This law became a dead letter, but was about to be enforced by Mayor Henry Wood in 1855, when the oystermen, alarmed, urged its modification, saying that when the law was framed little or no transplanting was done; that transplanted oysters (from Virginia) did not spawn, and therefore were not harmful, even if all milky oysters were to be regarded so, the correctness of which view several dealers denied with an intelligence in advance of their hearers. The discussion waxed warm, and in the spring of 1856 the board of health had hearings before them upon the matter, in which certain interesting facts came out. It was stated that there were nearly 800 persons in New York (no doubt including the whole tributary neighborhood) who at that time imported oysters from Virginia, employing 200 vessels—a number much nearer the truth than the "1,000 vessels" of the *Herald's* story. All the summer oysters sold in the city were southern; all agreed they were perfectly healthy. The counsel for the oystermen read a statement, in which he asserted that in Clinton market alone oysters were sold as follows: 1853, \$885,000; 1854, \$914,000. "Add other markets, and the trade involved a yearly capital of over \$5,000,000 in New York city."

DeVoe's *Market Assistant* contains the ensuing account of the notorious "oyster riots":

An unusual excitement, or rather an "oyster panic", occurred in New York city in October, 1855, which prevailed against the use of oysters as an article of food for several weeks. Several highly-esteemed citizens died very suddenly by cholera, which it was thought was occasioned by eating diseased oysters. Various causes were assigned for their poisonous quality; some attributed it to drought; others, that the oysters had been taken up during their spawning-time, and thus become diseased. The same complaint and fatal instances existed at Baltimore, Alexandria, Georgetown, and other places.

Dr. James R. Chilton, a noted chemist, after making a chemical examination of them, says: "It is not an unusual circumstance that oysters and other shellfish, when eaten after having been kept long during the warm season, will produce serious illness resembling cholera; but no such ill-effects would be likely to arise when they are received fresh from our waters."

Several years ago oysters were seldom seen for sale in their general spawning-season; it was not only against the law, as it is now [1863], but the people would not buy or have them in their possession. An ordinance was passed in 1839 which reads as follows: "No person shall bring into the city of New York, or have in his or her possession, in the said city, any oysters, between the first day of May and the first day of September, in any year, under penalty of \$5 for any quantity not exceeding one hundred, and the further penalty of \$2 for every hundred."

FULTON AND CATHERINE MARKETS IN 1855.—This discussion brought out many special articles in the daily press of the city, which are now of historical interest and large credibility. The *Tribune* of June 24, 1855, contained the following, in respect to Catherine market:

Next to the meat-trade, a more extensive business is done in oysters and clams than in any other article of food in the market. The stands, of which there are five, are situated at the southerly side of the street, occupying the entire front of the fish-market. Each dealer sells on an average about \$100 worth of all kinds every day, making a total of \$3,000 a week. The fish are generally sold out of the shell, and a large proportion are cooked.

The account concludes with a table crediting Catherine market with yearly sales of oysters and clams of \$156,000 out of a total meat, fish, and produce business of \$524,000. Another account in the *Herald* says \$140,000 worth of mollusks were sold there in one year, four-fifths of which are oysters.

In November, 1855, the *Tribune* "wrote up" Fulton market, and described eight stands devoted to the sale of shellfish, the total annual sales of which aggregated \$200,000, of which about one-sixth was for clams, etc.

"The trade in oysters," said this account, "is retail, and not more than one-tenth are sold in the shell. Some shipments are made to Liverpool during the winter-season by the Cunard steamers; but the quantity disposed of in this way is very limited, not exceeding eight barrels a month. There is only one company which exports oysters, and they sent more than \$20,000 worth last year to California. The same company pickled in one week 15,000. As the oysters are not sold in the shell, a large number of persons are employed in opening them. This is a business by itself, and the persons engaged in it are paid at the rate of about 50 cents a thousand. Some, who are well practiced in the art, can open 3,000 in one day, but 2,500 is considered a good day's work. Nearly all the oysters sold in this market are obtained at Oliver slip, near Catherine market, which is the principal rendezvous of the oyster-boats. No adequate conception can, however, be formed of the extent of the oyster-trade in this city from the business done in the markets, for immense quantities are bought from the boats without ever passing through the hands of the dealers."

The number of retailers in the city, at this time, was placed at 5,000, all of whom would lose a large measure of support if a prohibition of oyster-selling during the summer months were enforced. There was one feature, however, of the trade heartily condemned, but unfortunately not extirpated. I refer to the ruffians who, in the most dirty way, peddle oysters from an old wagon at one cent each. Their furniture consists of stentorian lungs, from which the most ear-splitting cries disturb the peace of every street and the temper of all the denizens, a pail of nasty water, a soda-water bottle of vinegar and another of a ferocious compound called pepper-sauce, and a box of salt, pepper, and street-dust mixed. Buying and selling only the cheapest oysters in the dirtiest way, they offer many spoiled ones—very likely to be productive of disease, and otherwise engender and minister to ill-health.

OYSTER-BOOTHES.—Only a grade higher are the fixed street stands for opening oysters to eat, of which a clever description appeared some years ago in the New York *Evening Telegram*, in the following language:

All along the [East] river front are places, rude huts, paralytic shanties, where oysters are sold at a penny apiece. You can stand on the outside and fish them up from the shells that are passed through the window to a ledge, or you can go in and have a 10-cent stew behind the red-hot stove. A man with a checked jumper on attends you and juggles the porter bottles containing catsup in so artistic a manner, that the thought of his being a base-ball player minus a position, will not be "put out". The frequenters of these *al fresco* oyster-houses are longshoremen, truckmen, stevedores, sailors, and others of that ilk, and a very large bowl of oyster soup, not stew, can be obtained for 5 cents.

MARKETS IN 1861.—It will be observed that in all these accounts the city markets are mentioned as the wholesale depots for shellfish. It is only within the last twenty years that Broome street and West Tenth have become the headquarters of oyster-dealings. When Lieutenant De Broca was here in 1861, he found that the "two most important markets for the wholesale trade in these mollusks are Catherine market, on the East river, and another at the foot of Spring street, on the Hudson river. As to the retail sales, they are made in all the markets of the city indiscriminately, in the oyster-houses, and in markets intended especially for the sale of fish". Then follows a description of the "floating-houses, constructed on rafts", which were the same then as now. Eleven at Catherine market and twenty-three on the opposite side of the river are enumerated. He continues:

These floating-houses possess one great advantage, which is, that the oysters can be preserved in them alive for several days during the winter-season, however low the temperature may be; and also in summer during the greatest heat, since the part under water is always cool. The oysters, or clams, placed in baskets containing about a bushel, are stored in the cellar and attic of the oyster-boat. In the room are placed only specimens of the different qualities for sale, from which samples purchasers make their choice. Here, too, all the packing which the necessities of the trade require is done.

Although there are always a great many oysters in these establishments, they never remain more than a few days, and arrangements are made with the plantations for constant and regular supplies. The number of boats of all kinds employed by the merchants and the planters of the bay, including those engaged in fishing for the oysters and clams, is estimated at 15,000.

PRICES IN THE PAST.—Prices of oysters in New York in the past, at least for half a century, do not seem to have greatly differed from those at present, save that then, as now, periods of excessive storm or other unfortunate contingency would produce a momentary scarcity, which would cause a sudden and temporary increase in price. Such a "famine" occurred in January, 1857. Quotations from files of newspapers, courteously opened to me by Thomas F. DeVoe, since 1850, show that for all sorts and grades of oysters in general sale the price at wholesale ran from 35 cents (rarely so low) to \$2 per hundred. The large majority of quotations gave "cullens" at 35 to 40 cents; "boxes" at 62½ cents to \$1, and "extras" at \$1 25 to \$2. An inferior grade to all, sometimes sold as "bushels", brought 50 cents. More recently (1876) the newspaper market reports give the following prices for oysters in Fulton and Washington markets in midwinter:

	Per 100.
Saddle-Rocks	\$1 75 to \$3 50
East Rivers	1 00 to 2 00
Blue Points	1 00 to 1 50
Prince's Bays	1 00 to 1 75
Virginias	1 00 to 1 75

These were all, however, grades above the average quality sold.

DEMAND AND SUPPLY, PAST AND PRESENT.—The history of the great city's progress in availing itself of this important article of food has thus been sketched. From being the common food of the poor man, so plenteous and vulgar that no feast ever saw its name upon the *menu*, the oyster became only a luxury for the well-to-do, and the prime feature of holiday banquets. Recovering from the scarcity which had brought this change about, by means of the artificial cultivation of immense quantities, oysters a second time have become abundant as an article of food, enjoyed alike by rich and poor. Those who live in the interior or abroad can hardly appreciate how extensive is the demand and supply in the coast cities. "Oysters pickled, stewed, baked, roasted, fried, and scalloped; oysters made into soups, patties, and puddings; oysters with condiments and without condiments; oysters for breakfast, dinner, and supper; oysters without stint or limit, fresh as the pure air, and almost as abundant, are daily offered to the palates of the Manhattanese, and appreciated with all the gratitude which such a bounty of nature ought to inspire."

41. THE OYSTER-TRADE OF NEW YORK IN 1880.

LOCATION OF THE OYSTER-BUSINESS.—The oyster-business of the city of New York, as at present conducted, is confined almost exclusively to two localities, the trades of which are to a certain extent distinct. One of these centers is at the foot of Broome street, East river, and the other at the foot of West Tenth street, North river, nearly opposite. The method of business at each is substantially the same, the difference consisting in the character of the oysters handled. In addition to this, a few firms are engaged at wholesale in Fulton market, and three firms near Washington market import oysters, opened, from the south. This includes all of the original wholesale and shipping business in the city—and the statistics of it, though represented by large figures, and though it took much time to obtain them, are not complicated.

SCOWS AND BARGES.—All of the dealers on the East and North rivers occupy floating places of business known as "scows", "oyster-boats", or "barges", being flat-bottomed boats, made with unusual strength and of the most durable materials, and which closely resemble the conventional "Noah's Ark" of the toy-shops, and the Sunday school picture-books, except that they have flat roofs.

The size of these scows varies, but fair dimensions are these:

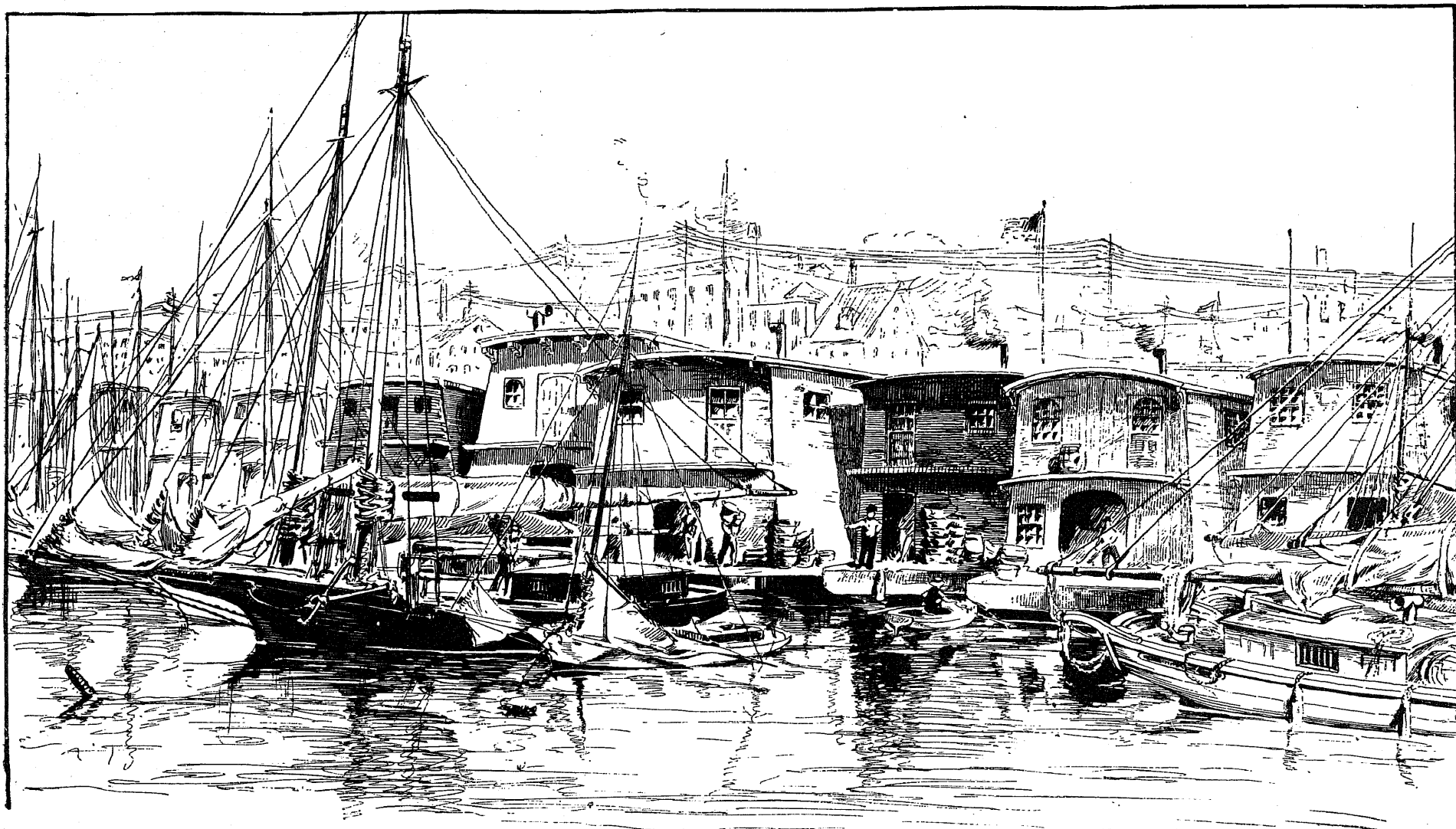
	Feet.		Feet.
Length of hull.....	75	Height of first story or deck	11
Width	24	Height of attic.....	9
Depth of hold.....	6		

The deep hold, well-floored, serves as a cellar, cool in summer and warm in winter; oysters will never freeze there when the hatches are closed. Over the whole craft, flush with the outside, is built a house, two stories in height, as I have indicated. The floor of the first story is the deck of the scow. This is the general business apartment, and gives room for storage, the opening of oysters, and transaction of business. Above is a loft where are stored barrels, baskets, and machinery. In the rear, usually—sometimes in the front end—is fitted up an office. The daily capacity of such a barge is about 700 bushels.

These scows are securely moored, side by side, to the wharf, or rather to the water-wall of the city, and are reached by broad swinging platforms, which allow them to rise and fall with the tide. At the rear end, therefore, they can always be closely approached by the sloops and boats which bring to their owners their stock. Such a barge is worth from \$1,500 to \$4,000, and, with an annual overhauling and caulking, will last as long as a man is likely to need it. There are 30 of these barges, representing at present, a value of \$75,000. To these barges at the foot of Broome street come the oysters from East river and Long Island beds; also somewhat from Staten Island and Virginia, but to a small extent compared with the west-side business in these two classes.

CHARACTER OF THE TRADE. —Three sorts of trade are carried on, as follows: 1. Some dealers are also planters and sell their own oysters; 2. Dealers buy from planters and sell; 3. Dealers sell on commission.

The planting of oysters by the New York dealers is almost wholly by partnership methods, and the statistics of the amounts they raise are credited to the totals at the point where the oysters are produced. New York furnishes a large part of the capital which operates the beds in all parts of the neighborhood, from Keyport, New Jersey, to Norwalk, Connecticut. It is very rare, however, that this planting is done in the capitalist's name, and it would be idle, and the cause of the greatest confusion, to try to ascertain to just what extent the score of oystermen in New York produced native oysters, apart from the share which country capital had in it. The arrangement between the New York man of money and his rural partner is usually this: The former furnishes the needed money, the latter does all the labor, and the cost of taking up and the profits are equally divided. The reason why the capitalist's name does not appear, which would redound to his credit as an extensive operator, is, that the beds are usually in Connecticut or in New Jersey, while he is a citizen of New York, and in both those states the law forbids a non-inhabitant to plant oysters. The same law holds even in respect to towns, so that a man must live immediately at his beds if he intends to work them himself. But, of course, no legislation can forbid partnership or borrowing money, or hiring out one's services, even if the other party concerned be not a citizen of the state or township.



OYSTER-BARGES AT THE FOOT OF WEST TENTH STREET, NORTH RIVER NEW YORK CITY.

Under this system the country partner reports to the census what amount he raised and sold, saying nothing about where his means came from—which is something the inquirer did not care to know. It only remains to ask the city man the number of oysters that pass through his hands, without question as to what part of these were raised out of his money—a question it would be almost, or quite, impossible for him to answer. Nor could he tell what these cost him, since a part of the investment which has been made long ago, is known to have been lost, a part remains ungathered on the beds—always an incalculable quantity, for accident may destroy all of it—and the harvest comes in by piece-meal. He cannot tell what these oysters have been worth precisely. He only knows, in a general way, whether his ventures in a certain place have been profitable or not.

A large proportion of the oysters handled by these New York firms, however, are bought from planters who own beds on the Connecticut or Long Island shore, in Prince's bay, Staten Island sound, or elsewhere. The owner may load up his sloop and bring his crop to the city to dispose of to him who will pay best; or the dealer may send out his own sloops to the producing-grounds, and with his business-card painted all over the mainsail, cruise about until he has bought a cargo at a satisfactory price. The more usual method, however, is to have it understood beforehand that certain dealers will take all the oysters certain planters can raise. Often money is advanced upon this understanding, or other help given, so that there is a closer business-relation than ordinary between the buyers and the planters—an intimacy (and confusion in the matter of statistics) to which the extensive partnership system lends itself.

The third method—of sales on commission—explains itself. It is not extensively followed, since the planters do not have faith in it, and the dealers do not care to encourage it.

Some dealers are shippers wholly, others find their whole custom in the city and suburbs. The former require less men and dispose of larger packages at each order; the latter require many trucks and delivery carts, though most of their customers themselves come after their supplies. I believe the shipping trade is generally thought more desirable.

EXTENT OF NEW YORK OYSTER-TRADE IN 1880.—The procuring of statistics of the amount of oysters handled in New York city was a matter of slow and painstaking inquiry. It was difficult, to begin with, to make the dealers understand the full purport of my inquiries, even when, as too frequently occurred on the east side, there was no surly indifference or active opposition to my investigations. Few of the oyster-dealers keep track of their sales, much less of the amount, in bushels or by the thousand, of the stock which passes through their hands into the city retail-trade, or out into the country. I desired to keep the northern distinct from the southern oysters, and here began another difficulty, and so on. It is with an apologetic feeling, therefore, that I venture upon the publication of these totals, which are founded only upon careful estimates of the annual transactions at the present time of each firm. Round numbers had to be used everywhere, and the whole matter is an approximation. I believe, nevertheless, although it falls far short of all previous estimates, that it is more nearly correct than any account of the wholesale-trade ever ventured upon heretofore, since it is supported by inherent probability, and by comparison with other statistics; for example, the reported total of the oysters produced at the beds which find their market at New York.

The quantities of oysters handled each year in the city of New York, then, are approximately stated in the following figures:

Southern, in shell.....	1,065,000 bushels.
Northern (natives), in shell.....	1,634,000 bushels.
Opened, from the south.....	600,000 gallons.
By count, in shell, at 250 to the bushel.....	765,000,000

The selling value of these oysters may be estimated as—

Of southern.....	\$800,000
Of northern.....	1,500,000
Of opened.....	458,700
Total.....	2,758,700

SCENES AT THE BARGES.—The scene at the barges on both rivers, during the busy months of autumn and winter, is a very lively one. The sloops, very trim craft, bringing oysters to be sold, will sometimes lie a dozen deep opposite the barges, with plank walks across their decks from the outer ones to the shore. The captain and crew attend to the getting up of the cargo out of the hold and putting it into baskets, sorting it at the same time. In the case of East river and Staten Island oysters, they are sold by the hundred or the thousand, as a rule, and must all be counted. An expert man will count them accurately as fast as they can be carried ashore. Long Island stock is generally sold by the "basket", this measure holding somewhat less than a bushel; but some dealers compel the sloops to measure by baskets furnished them, which hold a full bushel, or a trifle over. Even then no great measure is given, for care is taken not to shake the contents down. Virginia oysters may be measured by the basket, but are paid for by the cargo or fraction of a cargo, except where, as in the case of Staten Island planters, southern oysters, having laid a few months in Prince's bay or the sound, are brought to the city to be sold.

A newspaper account, written ten years ago, depicted the scene graphically, and it is still unchanged:

When the wind changes, the fleet comes up the bay, and then there is a busy scene in the neighborhood off pier No. 54. The dock and its approaches are covered with cartmen, wagons and horses, stevedores, and oyster-dealers. The vessels are fastened to the wharf by means of strong hawsers, and the hatches are off fore and aft. In the hold are men filling baskets rapidly, and others stand on the deck, rail, and pier-string, ready to pass them to the cart being loaded. All is rush, bustle, and trade, flavored with copious dashes of profanity. In front of the scow-warehouses are men continually employed on these days, filling barrels with oysters and heading them up. Inside of the scows dozens of men are opening, while others can them ready for transmission by rail to Canada, country hotels, and restaurants. But the city trade creates the hurry visible on every side. All day long, until the cargoes, which are always bespoken, are landed, the work goes on, and when they are discharged the vessels are sent away immediately for more.

POLICY OF THE DEALERS IN BUYING.—One dealer discoursed to me knowingly upon the best policy of buying, according to his long experience in the East river, as follows:

I sell only superior stock, which will average, all through, from \$1 to \$1 50 a basket. There are three sizes, "extras," "box," and "cullens". Cullens sell for four to five dollars a thousand. Six months' more growth makes boxes of them, numbering about 150 to the basket, when they sell for seven or eight dollars. After that the growth is so slow that it requires eighteen months longer to make extras out of them, but they are then worth fifteen to twenty dollars a thousand; the extras used to bring fifty dollars a thousand. This long waiting makes it more profitable to sell the two smaller grades, the most profit being in the best quality of box-oysters. All of the foregoing refers to East river "plants". In Rockaway oysters the dealer can make the most by selling them small, because the growth is rapid. Seed need lie there only from four to six months, whereas the same seed would have to lie on an East river bed from two to three years to attain the same size. Hence in Rockaway stock the dealer turns his money quickly. The prospects of business are good, because a scarcity of oysters is coming, which will raise the price.

Another dealer, who sells only oysters of his own raising, writes:

In planting natural seed-oysters (*i. e.*, natives) in northern waters, it is necessary that they lie at least three years to attain growth sufficient to have them run, by count, one-third "box" and two-thirds "culls". We plant each spring and fall, and therefore make at least eight plantings before the first crop of that series is taken up.

OYSTER-CARRIERS.—The carrying of oysters from the vessels into the barges affords employment to a distinct class of men, known as "carriers". There are from 25 to 40 of these on each river. They do not work on salary, but get 10 cents a thousand for the oysters carried, reckoning seven small and four large baskets to the thousand. This seems very small wages, but I was assured that they averaged from \$25 to \$30 a week during half the year. They are paid by the owners of the oysters sold.

OPENING OYSTERS.—The opening of oysters by the trade in New York city is not systematically carried on, as at Providence, Fair Haven, and in the south, and scarcely any is done until after the holidays, all the trade previous to that being in the shell. I doubt if more than 100 or 150 men are ever employed at once in the whole city in opening for the wholesale-trade. All the openers are men chiefly drawn from the ranks of longshoremen, and those who in summer get their living as deck-hands on steamboats and by other marine occupations. The rate of pay is 10 cents a thousand, at which rate about \$3 a day is regularly made when work is plentiful, and even as high as \$6 50 has been earned on a spurt. The openers are ignorant men, and, with the carriers, form a much "harder" class than those who are regularly employed to help about the barges, form the crews of the sloops, or do the work required at the planting beds. The oysters opened are mainly "Virginias", but also some "natives"—mainly from Staten Island beds. These are kept separate, at least by the most reputable dealers, and are of various qualities and many prices, ranging last year from 65 cents to \$1 40 per gallon.

PICKLING AND PACKING.—Beyond the pickling of an inconsiderable quantity by various dealers, and nowhere in a large way, I could not learn of any "packing" of cooked oysters in New York. It has been tried more than once, I believe, but the competition of Baltimore and Norfolk, where the facilities of doing it cheaply are greater, stands against success in New York. This competition is exercised, also, in the way of offering in this market oysters which have been opened at Baltimore, Norfolk, Crisfield, or elsewhere in the Chesapeake district. This trade, and its influence upon the general business of the north, has been fully discussed in the chapter upon Boston, and need not be rediscussed here.

RECEIPTS OF OPENED OYSTERS.—There are two principal firms in New York devoted to the importing of opened oysters, and their combined receipts amounted to perhaps 500,000 gallons during the winter of 1879-80. A large portion of this amount, however, was consigned through to points in New England, chiefly to the city of Boston. My memoranda from these dealers give an estimate of 335,000 gallons as the consumption of the city and its suburbs, much of which was re-exported by express to the interior towns of New York and western New England. The prices of these oysters were as follows in the spring of 1880: Standard, 55 to 65 cents; medium, 80 to 90 cents; select, \$1 25. The proportion in which they were sold was, five gallons of the "standards" to ten of "mediums", and ten of "standards" to one of "selects". Perhaps, then, an average price of 80 cents would produce a fair result in dollars, in estimating the value of the receipts, which would thus amount to about \$268,000. This trade is increasing, and gives better satisfaction in general in New York than in Boston, both because the stock itself seems generally of better quality, and because the shorter distance and superior accommodations in transit bring the oysters here in better condition. The reshipments are very widely scattered through the country, especially northward. Occasionally, however, orders come from the distant west. In February of 1879, for example, G. E. Maltby & Co. filled

an order from Prescott, Arizona, which deserves notice. A man desired some of their choice bivalves for the entertainment of his friends. When they got the order, and learned how much the expressage would cost, they hesitated. In answer to their telegram of inquiry, they were told to send them along. There were twelve gallons sent. It took them fourteen days to reach their destination. The expressage came to \$96 25. The telegrams cost some \$30. The oysters reached their destination without delay, and in excellent condition. Opened oysters have also been sent to Great Britain, and gave good satisfaction there. Long transportation, without harm, has been made possible by various improved and patented contrivances for refrigeration, in the shape of barrels, cans, and smaller packages.

THE RETAIL OYSTER-TRADE.—An attempt to ascertain some of the statistics of the retail-trade in oysters—the eating-saloon business—proved very unsatisfactory. I got the names of about 250 oyster-houses, and dispatched to each a circular asking the kinds and amount of oysters, clams, and scallops used, number of persons employed, wages paid, and capital invested. Of these 250 circulars, only about one-tenth came back, and these, I believe, did not represent an average of the whole, since few or none of the establishments of large size reported themselves, and in many cases the questions seem to have been misunderstood.

In general, it may be said that in the cooking of oysters the southern kinds are used, because these are cheapest, a special price being charged for a "stew" of northern oysters. For fried oysters, on the other hand, which require to be of larger size to make a show, the "box" size is used, and these are generally "Sound" or "East River" oysters. Oysters sold to be eaten raw may be anything and everything of respectable size; but the old brand names, "Saddle-Rock," "Shrewsbury," "Sound" "Blue Point," "Keyport," etc., the popularity of which was won long ago, are still attached. I suppose, for example, that twenty times as many "Shrewsbury" oysters are sold every season in New York as are raised each year in that river.

The largest oyster-saloons have always been in Fulton market, and have a world-wide reputation. Now they are so well rivaled by up-town establishments, that much of their prestige has disappeared.

As to how many persons are concerned in the retail oyster-business of the city, only a mere guess is possible, since a very large proportion of them are temporarily engaged, or have their business so inextricably mixed with the liquor-trade, or the business of selling fish and general provisions, that it is out of the question to define it separately with any exactness. Twenty-five years ago, when the "oyster-riots" attracted attention to the matter, the number of persons supported by the restaurant-trade in oysters was estimated at 5,000. Whether it is not double that at this time it is impossible to say; but I consider it safe to say that 5,000 families, at least, find their chief or exclusive support in-selling or preparing the mollusks for immediate consumption in the metropolis and its closely adjacent cities.

The wages vary immensely, depending on employer, sex, age and capacity of the employed, amount of working-time, kind of work, etc. Women receive from three to six dollars per week; boys and men from four to twenty dollars. A correct average is almost impossible, and a total approximate summation of the wages paid out in the course of a year in the retail-trade is impossible. Of course this information might be accumulated, but the time allowed by the Superintendent of Census for this investigation, did not admit of such study of the retail-trade as would have been necessary in order to estimate its total values.

THE OYSTER-FLEET OF 1879.—The following is a list of vessels engaged in the oyster-business in 1879, and hailing from the custom-house of New York:

UNDER TWENTY TONS.

Name.	Tons.	Name.	Tons.	Name.	Tons.
Arrow	7.25	Cupid	14.57	Edgar Barnard	16.42
Ansley Bedell	7.13	Continental	7.68	Etta	10.69
Ally	7.32	Catharine W. Burbank	16.82	Elizabeth Rowe	7.13
Adelaide	11.29	Celia Ward	6.37	Eupheunia	18.39
Alice	5.74	Carrie	7.58	Emma	5.49
Alarm	5.74	Cyrus F. Pell	15.87	Eliza Snedker	5.90
Alonzo E. Smith	18.98	Daniel E. Egbert	17.96	Eliza Rhodes	13.35
Amity	7.47	David Crowell	12.43	Edna	7.09
Alert	15.87	D. Bennett	12.42	Eliza and Jane	9.08
Am. L. Barnes	15.20	D. Joline	13.18	First	19.89
Amice	7.50	Delphinia	11.66	Fannie Scofield	7.07
Army	9.12	Dolphin	6.28	Fawn	10.13
Antoinette	5.11	Elizabeth J. Wright	19.19	Flaunt	5.39
Barnet Jones	18.00	Express	7.32	Fear Not	5.57
Blanche	18.95	Ella Fleecer	13.23	Flag	7.92
Belle	7.90	E. C. Page	8.07	Frank Hopkins	8.73
Barmer	10.54	Emmogene	11.86	Favorite	8.89
Blue Rock	10.00	Ella Wesley	12.41	Flying Cloud	9.48
Cornelius Cole	10.79	E. R. V. Wright	10.64	Fannie Fern	5.79
Crystal Fountain	8.10	Edith Thurber	9.09	Georgiana	19.07
B. B. Alger	19.41	Emma	7.58	George B. Wood	7.28
Charles Wall	8.79	Emily Robbin	15.54	Georgiana	5.11

Name.	Tons.	Name.	Tons.	Name.	Tons.
General Taylor.....	9.84	Jennie McFarland.....	9.10	Plymouth Rock.....	11.37
General Putman.....	11.60	John J. Moffott.....	6.20	Robert H. Coles.....	10.33
Golden Rule.....	6.40	Kattie.....	16.85	Syble.....	7.64
George D. Allen.....	15.81	Katie Wood.....	12.95	Sempronia.....	16.74
George F. Rogers.....	11.92	Kate Wade.....	10.15	Sarah M. Rogers.....	6.03
George P. Putman.....	8.37	Katie.....	13.08	Samuel P. Billar.....	16.59
Howard Harrison.....	11.48	Katy Did.....	10.00	Sarah E. Miller.....	8.95
Helena.....	11.90	Leader.....	13.22	Stella.....	19.22
Henry Miller.....	9.52	Lottie Elwood.....	14.84	Sidney Dorlon.....	8.32
Harmon Sierves.....	12.96	Laura Frances.....	7.46	Teazer.....	14.20
Harp.....	13.15	Louisa.....	7.36	Three Brothers.....	6.23
Hickory Bud.....	9.81	Lillie.....	9.11	Tillie.....	7.22
Hope.....	7.93	Lewis Weakes.....	7.14	Thomas Collins.....	13.50
Harriet Elizabeth.....	11.08	Leona.....	9.04	Thomas C. Barnes.....	9.13
Henry Clay.....	10.02	L. J. Dayton.....	12.07	Two Elises.....	6.47
Hattie Jenks.....	10.68	Little Kate.....	6.22	Trimmer.....	9.78
Izaak Walton.....	11.85	Lydia Van Name.....	12.37	Two Brothers.....	6.35
Isora.....	7.36	Lizzie Pearl.....	6.21	Uncas.....	10.27
Idlewild.....	15.45	Moonlight.....	11.80	Undine.....	10.01
Imogene.....	14.39	Minor.....	8.35	Vesta.....	6.92
Imperia.....	19.25	Millard F. Housman.....	11.94	Victorine.....	11.37
James H. Larkin.....	10.24	Marietta.....	11.64	Viola May.....	13.52
James Campbell.....	8.20	Minnie Van Name.....	16.08	Wm. H. Hoyt.....	10.52
John P. Evans.....	12.63	Mary Elizabeth.....	13.99	Willie.....	16.66
Jacob A. Apply.....	5.70	May Flower.....	7.35	Willow Bark.....	11.30
John Florence.....	7.79	Minnie and Irwin.....	14.13	Walter S. Lamance.....	16.23
John Manning.....	13.42	Music.....	7.42	Wm. H. Shamott.....	5.45
Janie Baker.....	6.04	Mermetora.....	9.48	Wm. H. Lissenden.....	7.16
Josephine.....	10.07	May Elizabeth.....	5.45	W. M. Negus.....	11.68
James K. Polk.....	6.43	Nellie Frank.....	8.66	Wm. Hillman.....	15.05
J. Wood.....	13.70	Nellie C. Powell.....	19.01	Wm. H. Merseau.....	11.16
Joseph Francis.....	15.64	Only Daughter.....	5.90	Wm. H. Phillips.....	10.04
James Henry.....	5.22	Paragon.....	16.18	Wm. Chard.....	9.91
Jennie C. Benedict.....	10.05	Pacific.....	19.11	Willard.....	10.85
John Wright.....	13.04	Pride of the Wave.....	10.05	Water Lilly.....	16.25
John T. Capman.....	10.21	Peruvian.....	18.96	Wave.....	15.17
Jennie.....	8.75	Peerless.....	5.79	Well Spring.....	11.12
Jane and Elizabeth.....	11.89				

VESSELS OVER TWENTY TONS.

Name.	Tons.	Name.	Tons.	Name.	Tons.
Joshua Lerines.....	80.97	Harriet M. Laskey.....	22.14	Captain.....	22.80
Cornelius C. Jones.....	20.36	Elizabeth Jones.....	22.44	Last One.....	20.07
Elizabeth Ann.....	22.36	Christiana.....	39.94	Gustavus A. Ratz.....	22.41
Agnes.....	49.86	Josie Reeves.....	45.35	Sophia Van Name.....	20.62
Harriet Dart.....	21.13	Sylvan Glen.....	21.65	Caroline Augusta.....	21.92
Mamie Higgins.....	77.49	Van Rensselear.....	22.41		

These vessels are classified as coasters, but took out a special fishing-license, in order to avoid hospital-dues and some other inconveniences. The customs-authorities have now decided that oystering is not fishing within the meaning of the law, and vessels engaged in this trade no longer take out a license. Each license was good for one year, and cost 45 cents, thus yielding to the New York custom last year \$82 80. Even if chartered for a single voyage a license was required. It is evident to me, however, that either the list is defective or vessels went without licenses, since I have a note of many additional schooners which ran to Virginia, among them the following:

Name.	Tons.	Name.	Tons.	Name.	Tons.
H. W. Race.....	80.40	Excel.....	40.52	Wm. Young.....	67.81
Jacob I. Housman.....	89.26	Harry Doremus.....	48.23	R. Mason.....	50.98
Robert Center.....	68.41	Wm. H. Van Name.....	97.04	Barnett Jones.....	92.91
Minnie Still.....	58.13	David Carll.....	124.95	Mary Emma.....	74.39
Mary Parker.....	34.32	Wm. Mazyick.....	75.62	S. E. Barnes.....	44.12
Amelia.....	71.41	Wm. McGee.....	85.99	Sidney Dorlon.....	36.03
Sophia Behrmann.....	49.43				

Also the steam-propeller Minnie and Irvin.

The jurisdiction of New York extends southward to Port Johnson, New Jersey; eastward to Patchogue, on the south shore of Long Island, and to Sag Harbor on the north side; and northward to Troy and Albany. In this large area a very much larger number of sloops than 177 are used in oyster-operations, but only so many are permitted or accustomed to bring cargoes of oysters to market.

THE EUROPEAN EXPORT-TRADE.—For many years the captains and passengers of steamers sailing from New

York to Liverpool have been accustomed to take with them a barrel or two of oysters in the shell, to be eaten on the voyage. Passengers did the same, and occasionally an American living in England would have them sent over to him as a treat. In 1861, Lieutenant De Broca succeeded in shipping safely a large consignment, by way of England, to the French Acclimatization Society in Paris. With these facts as a guiding suggestion, about ten years ago Mr. George H. Shaffer, of Fulton market, New York, requested an intelligent friend of his, who was going to England upon business, to try to introduce American oysters into the English market, and sent over a dozen barrels as an experiment. They retained their freshness, were landed in good condition, and speedily sold. The agent telegraphed Mr. Shaffer to forward a larger consignment, which also was sold advantageously, and a regular trade was established. Mr. Shaffer, however, enjoyed a monopoly of it, and the large profits, which at first accrued, only a short time, for his competitors were wide awake, and also began shipping to Europe, so that almost at a bound the exportation of oysters reached its full strength as a profitable business—that is, about as many were sent as there are now—all the foreign markets will bear.

The kind of oyster required for export is such as has not found favor in this country, where the “Saddle-Rock” and “Shrewsbury” are lauded above all others. The native European bivalve is small, rarely exceeding the size of a silver dollar, and is more popular than the American oyster. The English, with whom most of our trade is conducted, do not consider anything larger good to eat, and therefore we were obliged to accommodate this taste or prejudice, if we wanted to find ready sale. The oysters sent abroad, therefore, are all single (since they are to be eaten on the half-shell, and not cooked), small, and round; they are selected from the “cullens” or smallest of the three classes into which our oysters are usually assorted, and have received the trade appellation of “London stock”.

It is a much more fortunate thing for us that the foreign taste is for small oysters than for large ones, since, hitherto, there has been a slow market and cheap price for cullens, which now find a ready sale, if clean and of good shape. It enables a man to turn his money quickly by selling his stock before it has lain more than a year in the water, and also to avoid the ever-present hazard of total loss by some storm or other of the many accidents to which oyster-beds are always subject. On the other hand, I have heard many persons complain, with some justice, that the export-business had been decidedly harmful to the general interests of the oyster-trade, because it took away from the beds great quantities of young, which had not yet had time to spawn, as they would do if allowed to remain enough longer to make them of sufficient size for the home trade. This was cutting off not only the present, but the future of the oyster-beds which supplied London stock; and, as the harm to one bed was indirectly harm to all its neighbors, the general good of the planters was imperiled.

While this argument, which may be condensed into the ancient simile of killing the goose that lays the golden egg, is perhaps good for limited areas drawn upon with extraordinary persistence for the foreign market (Blue Point, for example), I do not consider that in general it overbalances the greater benefits derived. Nor do I apprehend, after a careful examination of the matter, that the European demand—even though doubled—is likely to overtax and ruin any American oyster-beds which are properly watched and scientifically operated.

Because the oysters, native and cultivated, which are grown at the eastern end of the Great South bay, on the south shore of Long Island, best fulfilled the conditions, they were the first to be exported to England, and have most largely, perhaps, entered into the trade. They are known both at home and abroad as “Blue Points”, and acquired a reputation in England superior to all others, up to the season of 1879, when there was a falling off in their quality and a consequent loss of esteem.

Besides the “Blue Points”, great quantities of oysters from the East river (particularly Rowayton, Norwalk, and Bridgeport), have been shipped, chiefly through J. & J. Ellsworth; a less number from Rockaway and Fire island; and large quantities from Staten Island waters, under the brand of “Sounds”. These last became the favorites abroad during the past season, the “East Rivers” coming second, and the unfortunate “Blue Points” third; and, inasmuch as they cost less than either of the other brands, money was made upon them liberally, while no one who forwarded “Blue Points” received much if any profit, and many shippers lost money.

The London stock having been picked out by the planter, is purchased by the shipper on the ground, where he sends his boats to buy daily, or keeps a permanent agent and packer. He culls it a second time, discarding about one-fourth, so that it is estimated that four bushels of oysters are caught for every barrel exported, since the barrels (second-hand flour barrels) hold scantily three bushels. The useless residue is not wasted, but thrown back upon the packer's own bed to grow farther. The number of oysters in a barrel varies from twelve hundred to two thousand; the more there are the better the English retail-buyer likes it, since he sells them by count. This has had the effect of a steady reduction in the size of the oysters sent, until now much smaller stock is sent than at first, and more ground is given the grumblers than ever for their complaints against this line of business; but the limit has probably been reached in this direction.

In packing the oysters they are placed as snugly in the barrel as possible, and well shaken down. Attention is paid, also, to placing the oyster with the deep shell down, so that the liquor shall not so readily escape. Some kind-hearted persons were greatly distressed, a few years ago, at the supposed suffering which the mollusks

underwent in their close quarters and long seclusion from the world while on the passage; they loudly demanded that holes should be left in each barrel and the contents deluged with fresh water daily, and that a plentiful supply of bran should be mixed with them to serve as food during the trip! This was an astonishing example of Berghism run wild, and did more credit to the hearts than the heads of the philanthropists, who were so concerned in the welfare of their bivalvular brethren.

The length of a voyage to Europe in cold weather is no feat worth mentioning to a well-constituted oyster. In Prince Edward island I found it to be the common practice for citizens to purchase fifteen or twenty bushels of oysters, pile them in their cellars between layers of sea weed, and use them gradually all winter, finding the last ones alive and well in the spring. This used to be the universal custom in New York before restaurants came in fashion. Southern oysters en route from Chesapeake bay to Boston and Portland are frequently a month out of water, yet do not suffer, and grow well enough when returned to the water, though it is so different a latitude. Stock is frequently kept several weeks in the holds of the "arks" in New York, or in the cellars of wholesale depots, waiting for profitable sale. One gentleman assured me that he kept a quantity of "Blue Points" 107 days in his cellar, losing but a few of them, and these are not generally considered so hardy as some other sorts—those from the East river, for instance. The hardness of the "Sounds" is well shown in the article upon the oyster-beds of New York bay, in relating the old custom of peddling them up the Hudson river in the fall.

Packed so as to prevent injurious jarring, and stowed in the extreme forward part of the vessel, where they keep cool—the score or so of barrels of oysters smashed when the Arizona collided with an iceberg, found it really chilly!—the mollusks therefore find it a pleasant experience rather than a cruel hardship to cross the Atlantic. No time is lost in getting the oysters, when packed, into the steamer, and many are taken in sloops directly from the producing points to the steamer's wharf, and thus escape the bother and expense of a second or third handling in New York.

Some American firms have regular agents abroad who care for and dispose of the oysters sent to them. In other cases they are consigned by the shippers to commission merchants on the other side. Liverpool has been the great receiving point for Great Britain, because it was the nearest port. It was found that the extra time required, and the port charges on cargoes sent direct to London by steamer, more than overbalanced the slight saving effected in freight over those forwarded by rail from Liverpool. The amount of oysters sent each week, though not large, has sometimes been more than could be disposed of before the next shipment arrived. To provide against loss in this contingency, the largest dealers own spaces of sea-bottom, where the surplusage is thrown overboard to keep in good condition and drawn upon as required. Some thousands of barrels are sent annually, which are intended to lie and grow there from one to three years. American oysters laid down thus in foreign waters have never been known to spawn, so far as I could learn, but the conditions have never been favorable; and no experiment, that I am aware of, has been tried, to ascertain whether seed-oysters from the United States, properly planted, would not grow into good health, emit spawn, and establish their race upon the European coasts. I see no reason why such an experiment should not prove entirely successful. It is said that the English beds are becoming so depopulated as practically to have become worthless. The eighth edition of the *Encyclopædia Britannica*, speaking briefly of oysters (vol. xv, p. 348), under "Mollusca", says that only about 30,000 bushels of "natives", or oysters from artificial beds, and about 100,000 bushels of "sea-oysters", are annually sent to the London market. This seems extremely small, but the English people have not yet learned to regard the bivalves as anything more than a luxury, and heretofore they have always been beyond the purses of any but the wealthy. The demand, however, is increasing through the cheapening of this excellent food, and the acquired habit of eating and enjoying it. Nevertheless, it is easy to overstock the European market, and no little harm has happened to consignments, with dead loss to the owners, through being delayed too long before being sold, in consequence of an oversupply. This happened more frequently some years ago than it now does.

One large shipper gave it to me as his belief, that London could not use more than 500 barrels a week, at the present time, nor the whole United Kingdom consume more than 3,000 barrels. Occasionally this year the market has been so crowded that sales at 5 shillings a barrel have been made, to avoid total loss. On the other hand, it is not always easy to obtain supplies in New York for the European trade, in midwinter, with necessary promptness, in which event those planters who are able to run into New York good stock realize large profits, and the agents in Europe make handsome returns to their principals. The winter of 1879-'80 was so mild and "open" a one that this difficulty was not experienced, but previously it has been an important element in the trade.

The prices received for American oysters sent abroad have been very various, ranging the past year from 5 to 40 shillings a barrel. Leaving out the various deductions necessary, it is considered fair to estimate \$5 to be the average cash returned to this country for each barrel. At this rate the stated total of 63,300 barrels (about 175,000 bushels) would net the United States no less than \$316,500 in gold, an amount which would by no other means be brought into our pockets, and which enriches the country by so much, since the value exchanged for it does not, in any degree, impoverish the country, but is a product of labor which would not otherwise be employed, and the disposal of a product not otherwise to be used.

Comparing this with the exportations in previous years, it will be seen that there is no loss, but a rapid gain. A statement of the value of oysters exported from the United States from 1864 to 1879, inclusive, reads as follows:

1864.....	\$85,089	1872.....	\$173,711
1865.....	122,169	1873.....	243,723
1866.....	200,409	1874.....	223,733
1867.....	181,271	1875.....	170,277
1868.....	121,946	1876.....	214,196
1869.....	89,266	1877.....	431,230
1870.....	134,804	1878.....	393,061
1871.....	168,122	1879.....	453,306

The different customs-districts from which these exportations were, are as follows:

Alaska.....	\$7	New Orleans.....	\$103
Baltimore.....	44,871	New York.....	*302,732
Bath, Me.....	9	Oswegatchie, N. Y.....	12,278
Boston.....	2,278	Paso del Norte, Tex.....	9
Brazos de Santiago.....	265	Passamaquoddy, Me.....	712
Buffalo, N. Y.....	41,289	Philadelphia.....	9,468
Cape Vincent, N. Y.....	4,210	Portland and Falmouth, Me.....	5,224
Castine, Me.....	6	Puget Sound, Wash.....	1,673
Champlain, N. Y.....	11,680	Saluria, Tex.....	26
Chicago, Ill.....	74	San Francisco, Cal.....	4,157
Corpus Christi, Tex.....	4	Saint John, Fla.....	20
Detroit.....	1,746	Vermont.....	4,556
Duluth.....	62		
Genesee, N. Y.....	573		453,097
Minnesota.....	5,065		

Of these almost exactly one-quarter were sent to Canada, leaving about \$360,000 worth to be sent to Europe, and, in trifling quantity, to Mexico and the East Indies. Dismissing these latter, it is interesting to inquire somewhat into the statistics of our exportations to Great Britain and the Continent. The number of shipments in 1879, between November 1 and May 1, were:

To Liverpool.....	27	To Havre.....	9
To Hamburg.....	18	To Glasgow.....	9
To Bremen.....	7	To Bristol.....	5
To London.....	11	To Cardiff.....	1

This gives an average shipment to Great Britain of 2,161.5 barrels; to Germany and France of 86 barrels. The date of the largest shipment was December 6, 3,558 barrels. The amount shipped from New York was 59,565 barrels, and the value returned by the New York custom-house, \$315,933, which gives an average valuation per barrel of \$5.30. These shipments were distributed, in consigning, as follows:

	Barrels.	Bushels.
To Liverpool.....	59,777 × 3 =	179,331
To Hamburg.....	2,321 × 3 =	6,963
To Bremen.....	331 × 3 =	993
To London.....	328 × 3 =	984
To Havre.....	268 × 3 =	804
To Glasgow.....	200 × 3 =	600
To Bristol.....	70 × 3 =	210
To Cardiff.....	5 × 3 =	15
Total.....	63,300 × 3 =	189,900

At an average of 1,200 oysters in a barrel, this shows the total shipment by count to have been nearly 76,000,000. This average of 1,200 is too low, no doubt, as a multiplier, but is on the safe side; moreover, it will "sum up" a deficiency in putting not quite three bushels into some of the barrels. Taken altogether, this figure (76,000,000) is inside the truth, and a fair estimate. This year (1879-'80) was, however, a poor year for the oyster-exporting trade in the north, because of the mildness of the weather. Oysters could be got in the greatest abundance all the winter through, and glutted the market. Sometimes, on account of ice, there will be a scarcity of stock at a suitable time for shipping.

The general opinion among New York men is, that the European demand is going to increase steadily, while there will not be an overplus of stock here, since the East river beds are slowly failing and are more and more required to furnish a seed-supply. The shippers are, therefore, hopeful of profitable prices in future.

*The books of the custom-house in New York place this figure at \$315,933.

Since writing the above I have been favored by Cortis & Freeborn, freight brokers, New York, with a statement of the exports for 1880-'81, as follows. It will be seen that it shows a slight increase over the previous season:

STATEMENT OF AMOUNT OF OYSTERS EXPORTED TO EUROPE FROM NEW YORK, BETWEEN OCTOBER 9, 1880, AND MAY 14, 1881—ONE SEASON.

Date.	To Liver-pool.	Various ports.	Total.	Date.	To Liver-pool.	Various ports.	Total.
	<i>Barrels.</i>				<i>Barrels.</i>		
October 9.....	298	4	302	February 5.....	838	10	848
16.....	652	20	672	12.....	1,012	43	1,055
23.....	1,288	6	1,294	19.....	1,087	40	1,127
30.....	1,930	78	2,008	26.....	1,179	35	1,214
November 6.....	2,420	100	2,520	March 5.....	915	915
13.....	2,622	140	2,762	12.....	1,601	25	1,626
20.....	2,444	76	2,520	19.....	2,183	46	2,229
27.....	1,817	431	2,248	26.....	4,172	131	4,303
December 4.....	2,454	250	2,704	April 2.....	4,056	4,056
11.....	2,932	194	3,126	9.....	3,368	54	3,422
18.....	2,001	219	2,220	16.....	3,967	25	3,992
25.....	2,380	184	2,564	23.....	4,216	100	4,316
January 1.....	1,601	9	1,610	30.....	4,094	64	4,158
8.....	2,120	77	2,197	May 9.....	1,441	1,441
15.....	2,740	36	2,776	14.....	53	53
22.....	2,322	99	2,421				
29.....	1,937	132	2,069	Total.....	68,140	2,628	70,768

L. COAST OF NEW JERSEY.

42. OYSTER-INDUSTRIES OF THE NEW JERSEY "BAYS".

TOPOGRAPHY.—The coast of New Jersey, south of Sandy Hook, like that of Long Island, and for similar reasons, forms a favorable region for oyster-growth. Long, desolate beaches stand without, and between them and the mainland stretch great salt lagoons, protected from the sea and receiving a constant supply of fresh water into their shallow and marshy basins. These "bays" extend in almost unbroken continuance from the southern line of Monmouth county to Cape May, while in Monmouth county itself there are several indentations of the otherwise abrupt coast-line, which afford the oyster-grower an opportunity to practice his profession.

OYSTER-LEGISLATION IN NEW JERSEY.—But before proceeding to a particular description of these points, a recapitulation of the statutes of New Jersey (already alluded to under the heading "New York Bay"), which are of general application to the oyster-interests of the state, may prove of interest. They are substantially as appended, according to the revision of 1847, the latest authorized, "Title XVI, Fisheries, Chapter 8":

I. Forbids raking on any oyster-bed, or gathering any oysters or shells, or offering any oysters for sale, between May 1 and September 1, in Bergen, Essex, Middlesex, Monmouth, Cape May, Salem, and Gloucester counties; between July 1 and September 1, in Hudson, Union, and Cumberland counties; and between May 1 and October 1, in Burlington, Atlantic, Ocean, and Cape May counties. In case of violation, whether oysters be taken or not, the offender shall pay \$10 for each offense; but persons may at any time take and sell oysters from their private planted beds. In Cumberland county, moreover, it is forbidden any person to take oysters in any manner on Sunday, or between 8 p. m. and 4 a. m., under liability to imprisonment and a fine of from \$50 to \$500.

II. No person, residing within or without the state, shall rake for or gather oysters in any waters of the state, with a dredge or any sort of instrument answering the purposes of a dredge, under penalty of \$50 fine; provided that this and the sixth section shall not apply, so far as regards persons residing in the state, to the Delaware bay, except within Burlington county.

III. Justices of the peace shall issue warrants, and constables arrest those violating the preceding sections.

IV. Forbids selling or offering for sale oysters in this state, between May 1 and September 1, except that in Cape May county the time is extended to October 1; provided, that owners of planted oysters may take up and sell at any time. Penalty, \$5 fine.

[There seems to be an inconsistency between this and § I.]

V. Forbids gathering oysters in this state to be made into lime or to be used in the manufacture of iron. Penalty, \$50 fine.

VI. No vessel or craft of any sort permitted even to carry an oyster-dredge, or anything to be used for that purpose, under penalty of \$50 fine.

VII. No one who has not been an actual resident or inhabitant of the state for six months, may rake or gather clams, oysters, or shellfish, for himself or employer, in any waters of the state. Violation of this law is a misdemeanor, punishable by imprisonment, or fine not exceeding \$150, or both, with forfeiture of boat and all apparatus. Resisting an officer engaged in enforcing this statute, subjects each person implicated to an added fine of \$30.

IX. Makes it lawful for "any person owning marsh or meadow in this state, within the boundaries of which there shall be creeks, ditches, or ponds, where oysters grow or will grow, and where such creeks or ditches do not lead to any public landing, to lay or plant clams or oysters therein, * * * and for the preservation of which to erect a fence, hang or affix gates or locks across said creeks or ditches, to prevent any person or persons from entering the same".

Sec. 12. If any unauthorized person be found with a boat inside any fence or gate as aforesaid, where clams or oysters have been planted, or shall break down any such fence or boundaries, he shall be liable for every offense to imprisonment of not more than six months, or to a fine not to exceed \$100, or both; provided, that the free navigation of no thoroughfare or channel may be obstructed.

X. No persons, under any pretense whatever, shall take away "from any natural oyster-banks or beds in this state, any old shells, other than such as cannot be removed or separated from the oysters without injuring the same; and all such shells shall be culled and separated from the oysters and thrown back again upon the said natural banks or beds". Penalty, fine of \$10 and forfeiture of offending boat and tools. But this does not prohibit persons taking shells from their own private beds.

Many statutes exist in addition to this, which have only a local application, and hence are quoted at the points where they are in force. It would seem difficult to enforce these laws upon reading them; but the reader must take into account the extreme jealousy which causes every man to watch his neighbor as a cat would watch a mouse, if not hoping to find him derelict, at least resolved to catch him, expose him, and so thin the ranks of rivalry as well as share the reward. Every oysterman is thus as good as a special constable, and the law takes care of itself. The attention to the laws, however, varies in different parts of the state, and entirely different constructions are put upon statutes in different counties.

SHREWSBURY.—The most northern of the indentations of the northern coast of New Jersey, to which I have alluded, is that just at the heel of Sandy Hook, and at the base of the Navesink Highlands, comprising the Navesink and Shrewsbury rivers. Shrewsbury is one of the oldest oyster-regions in the neighborhood of New York, and its product has always enjoyed a high reputation in her markets.

In 1853 the *Herald's* review of the oyster-interests in the vicinity of New York, heretofore quoted from the files of Mr. Thomas De Voe, contained paragraphs relating to Shrewsbury, which are so interesting that I quote them at length:

The number of men engaged in the oyster-fisheries at Shrewsbury is computed at 250. Of these more than one-half are employed in transplanting from the natural beds in Newark bay to the artificial beds on the coast of Shrewsbury.

Shrewsbury oysters are said to be inferior even to those procured from the best beds of the East river. Their flavor is a little more pungent; they have a yellowish tint, and the shell is generally whiter. They are a smaller oyster, but in proportion to their size, they contain more meat. The peculiar color, by which they may be easily distinguished from all other kinds, is doubtless imparted to them by the nature of the bottom of the river. The beds cover an extent of two or three miles, and are owned exclusively by the farmers along the banks of the Shrewsbury; and the beds extend across the river, which is between two and three hundred yards wide. When the tide recedes the oysters are exposed to view, and may be gathered with an ordinary pitchfork. The operation of "tonging" is only necessary with those that lie in the bed of the river, and therefore comparatively few boats are required. The larger part of those sent to New York are transported by steamboat. The farmers employ persons to take them up at low tide and send them to market to be sold, on their own account. In some few instances they enter into a sort of partnership with oystermen owning sail-boats, who obtain one-half the profits in consideration of taking them from the beds with tongs and carrying them to the city.

There are two branches of the river in which they are planted, but those procured from the beds in the southern branch command the higher price. The bottom of the river is covered with a rich black mud, to the depth of from 4 to 6 feet, and it is this which gives the oyster its yellow color and peculiar flavor.

An oyster-bed there is almost as valuable as a gold mine, less injurious to health, and easier to work. Their owners are not only well-to-do in the world, but are considered by those in the trade wealthy. They are not required to pay any tax for their privileges, and there is very little risk attending their business, compared to that to which others are subject. About \$200,000 worth are sold during the year, and this amount is inadequate to the demand. There is no possibility of an increase in the supply, however, for the only part of the river capable of growing them is already laid out in beds, and its productive powers are now taxed to their fullest extent.

The trade in Shrewsbury oysters differs very materially from all others; there are less oystermen engaged in it, in consequence of a large portion being sent to this city by steamers in place of sloops and other sail-boats. The capital invested in it is perhaps less, in proportion to the article, than that invested in the East river and Virginia trades, and the profits are more considerable.

Shrewsbury never possessed any natural beds of oysters, and its celebrated stock always was, and still is, raised from transplanted young, obtained now largely in Keyport. "At present," wrote Professor Lockwood, in 1873, "the 'Shrewsbury' is accounted by many as the emperor of the bivalves, and will fetch in market at wholesale from \$1 50 to \$3 50 a hundred." But for several years their production has grown less and less, and probably ten times as many reputed "Shrewsburies" were sold in the markets as annually came out of that river. During the winter of 1879-'80 only about 20,000 bushels were harvested, by about 15 planters. About one-third of these are northern

oysters, mainly bought at Keyport, and transplanted to Shrewsbury river, where they will grow in two years to a large size. These oysters chiefly go to supply Long Branch, which, a dealer informed me, used from his depot alone 125,000 oysters and 40,000 clams each season. The two largest hotels consume 25,000 oysters each, weekly. In early days a special law was passed applying to these waters, as follows:

It shall not be lawful for any person or persons to rake * * * or carry away any oysters other than by wading in and picking up by hand the same, within the following bounds, in the river commonly called * * * the North or Navesink, lying within the county of Monmouth, * * * above a direct line from the store-house of Eseek White, on the Shrewsbury side of the river, to the dwelling-house of Thomas Layton, on the Middletown side of the river aforesaid. Penalty, \$10 fine for each offense.

There is also a law extant against erecting stakes, or any other means of using "wares" or fyke-nets for taking fish on the bottom of Shrewsbury river where oysters are planted.

SHARK RIVER AND ITS LOCAL LAWS.—The next point southward that concerns us is Shark river. It was once thought that this bay would be exceedingly productive, and there was really a considerable industry, which gave rise to enactments in the legislature as follows, being the amended statute of 1870, revising the previous laws of 1861:

This law (1) authorized the board of chosen freeholders of Monmouth county to occupy, during twenty years, for oyster-culture, Shark river, within the following boundaries: Beginning at low-water mark at Search point, in the township of Ocean, and running thence in a straight line to Bukey's point in the township of Wale; thence down the shore at low-water mark to a stake standing on low-water mark and on a line with the east end of James W. White's dwelling-house; thence northerly and on a straight line to a stake standing at low-water mark on the west side of Long point opposite Yellow bank, in the township of Ocean; thence up the shore of said river at low-water mark to the beginning.

II. The board of freeholders shall appoint commissioners, holding office one year, to survey and subdivide the above space of river into two-acre-lots for oyster-culture; but no individual shall own more than two acres, and no company more than five.

SEC. 3. These lots shall be rented at public auction, to the highest bidder, for from one to five years, the sum bid to be paid annually and secured to the commissioners. None but citizens may hold ground. The commissioners may renew a lease for five to ten years, but at a rate not less than previously paid.

III. Makes it the duty of the commissioners to enforce the protective laws, and to collect and devote to the school fund the rents due and penalties assessed; they must also make a sworn report to the board of freeholders.

In 1877 about 200 lots were said to be leased, at an average rental of \$2 a year, and many persons were employed; but at present the business has declined, and only enough remains to supply the local consumption in summer at Ocean Beach and other neighboring summer hotels.

BARNEGAT BAY.—Beyond Shark river no oysters exist or are cultivated until Barnegat bay is reached, where, in its broad waters, an immense and ancient industry of this kind is followed.

Here, as at other points, the Indians had been wont to come, generation after generation, in search of shellfish. This is attested by the remarkable heaps of shells left as monuments of their feasts, and which are again worthy of special description.

The natural beds in Barnegat bay begin about three miles above the village of Barnegat, with an occasional "strike" a little lower down, and extend for about ten miles northward, with a width of about two miles. They are known as the Cedar Creek grounds. The bottom here is gravelly and more or less sprinkled with dead shells, and this is one of the great sources of seed for all the coast southward. Boats also come in considerable numbers from the Raritan, Staten Island, and Blue Point districts, but less now than formerly. From this part of the bay came the once famous "Log Creeks". These beds are reported to be constantly losing strength. The carelessness or entire neglect in culling the seed taken away, returns so few shells to the water that the cultch upon which spawn may rest is growing very scarce. This is suicidal to the whole community, but selfish greed prevails every season over prudence. Laws designed to protect these beds are inoperative to a great extent, except that a stranger will feel their force if he attempts to tong in the summer, as the natives permit themselves to do, or tries to carry away oysters so small that more than 350 of them will be needed to fill a bushel. This last is an almost forgotten law of the three shore counties, Ocean, Burlington, and Atlantic.

A second large ground for gathering oyster-seed is what is called the Gravellings, a shoal of gravel occupying a space several miles square in the mouth of Mullica river. This is the name the river had of old, and still goes by, among the local sailors; but on the late maps I find no such name, the water meant being denominated Great bay, and forming the expanded outlet of Wading river, Atsion river, and several creeks. Egress into the ocean is had through "New" inlet, which opens between "Old" and Brigantine inlets; the three passages, with their dividing, sedgy islands, separating Brigantine beach from Long beach, which is unbroken, save by Barnegat inlet, all the way northward to Squan.

The "Gravellings" extend up the Mullica river from the head of Great bay for six or eight miles, to just above the mouth of Bass river, and produce seed regularly every year, though in varying abundance.

The seed from the Cedar Creek beds is preferred, however, by the West creek and Manahawken planters, as it seems to live and grow into better shape on the local beds. The Gravellings are thus raked chiefly by planters to

the southward. There seems no diminution in the quantity to be gathered there from year to year, although enormous quantities of cultch are taken away at each seed-gathering, and nothing returned.

Planting was long ago—perhaps fifty years—well under way in this region, and formerly, perhaps, was more widely followed than at present, but no more successfully. Leaving out of view the attempts just begun to foster the interest at Forked river, Barnegat is the northernmost place in this district where oyster-culture is followed. To aid and protect this industry these laws were long ago made by the legislature, as annexed:

1. *Be it enacted* * * * , That it shall be lawful for any person, being a citizen of the state of New Jersey, and resident of the county of Ocean, within the boundaries hereinafter described for the purpose, to stake off any quantity of land covered with water, not exceeding two acres, marking the boundaries thereof by stakes or other marks, plainly visible to persons navigating the waters so occupied, to plant oysters; *provided*, that the share-owners shall have the right and preference to stake off as far as their deeds allow, by running their lines for that purpose.

2. *And be it enacted*, That the boundaries within which land may be so staked off and occupied shall be as follows: Beginning at Cedar Creek point at low-water mark on the west bank of Barnegat bay, along said bank to the south line of Ocean county, running off 300 yards distant from the shore.

3. *And be it enacted*, That oysters within the boundaries of all said waters shall be the private, personal property of the persons, so occupying said land * * * ; and any person who shall * * * injure or carry away the same, while said boundaries are so marked, shall be guilty of larceny * * * and shall forfeit * * * all the implements used for taking the same * * * .

It would seem as though this language was plain enough to protect the interests of any one who availed himself of the privileges alluded to under its promise. However, there does not exist the public sentiment to secure the execution of the law. No man is willing to risk his money in planting, when he has no surety that he will be able to reap any reward for his outlay. Hence, oyster-raising at Barnegat, where there are hundreds of acres of perfectly good but idle bottom, and plenty of capital ready to be thus employed, has dwindled, until the entire crop last season was reported at less than 8,000 bushels, all of which was consumed locally. As this small crop was divided among forty or fifty growers, one can easily see that nothing of a business is carried on here.

The sentiment of the town opposes any change which shall protect individual planting. Night-thieves and foggy-day oystermen, therefore, control and ruin the oyster-interests, making it so risky to plant that men of means will not put their money into it. Without some betterment, oyster-planting must continue to be a failure here as a business, though thousands of acres of good bottom remain unutilized, where both native and southern seed would grow to great advantage and a most profitable industry, employing steadily all the now idle laboring element of the shore-towns, here and northward.

To show how profitable oyster-planting may be here, Captain Cox told me that some years ago he laid down a lot of young oysters which cost him \$13. After two years he procured a man to take up and sell all that were upon the beds, giving his agent one-half. The returns to him were \$57, his agent taking the like amount, showing an increase of about 1,000 per cent. In addition to this, a dozen or fifteen bushels were eaten by each of the two families.

The experiment of "shelling" has been made with great success, and it is said that any one might reasonably expect to get 100 bushels of seed from 20 bushels of stool laid down anywhere in the upper half of the bay. Popular construction, however, makes such cultch-beds "natural ground", and everybody will go and rake. It has even occurred that a man's oysters taken off his private bed and placed on staked ground in a creek to "freshen", have been raided upon by thieves, and though he could prove the facts he was unable to recover in local courts.

MANAHAWKEN, TUCKERTON, AND VICINITY.—To the south of Barnegat a different sentiment prevails, and at Manahawken, West Creek, Tuckerton, and intermediate villages, live a large number of oyster-planters who have beds opposite their homes to a considerable extent, and also down in Great bay, below the islands, almost meeting the Absecon men, and associating with the planters at Bass river and Port Republic.

The West Creek and Manahawken men, as I have said, get the most of their seed at Cedar creek. The precise number of planters, large and small, it was difficult to ascertain. I was assured, however, that two-thirds of all the men in the town were directly engaged, which would give to Manahawken about 125 and to West Creek about 100 planters, a considerable portion of whom get all the money they ever see out of the oysters they catch and plant for themselves or other people. Most of them are married, and it is safe to say that at least 200 families in the two villages derive their support from this industry. Their best planting-grounds are off Horse point.

Tuckerton, according to the late census, had about 1,800 inhabitants. A thousand of these, it is certain, if not more, live by means of the oyster- and clam-fisheries, with little outside resources. It is the one industry which keeps the town going, for little else is possible; and it is undoubtedly true that the area of bay-bottom devoted to this work is much more productive than any equal area of adjacent sandy and pine-covered shore. At Tuckerton and northward, therefore, from 2,000 to 2,500 people get their support out of oyster-culture. On the Mullica river are two other settlements, Bass River and Port Republic, which will add from five to seven hundred more. All of these men get the main part of their seed early in the fall at the mouth of the Mullica. During all day of September 30, and during the night, schooners, sloops, cat-boats, sail-scows, trim yachts, and shapeless, ragged tubs, have gathered there, chosen a spot out of what was left of the space, and anchored. Once the anchor down, no movement elsewhere could be made. Each sail-craft towed behind it one or two small scows termed "garveys", and had upon its deck one or more small skiffs, or those ingenious ducking-boats, peculiar to this region, called "dinkies".

It is a common thing for the first of October's results to show 100 or 150 bushels of seed to the man, on the most favorable ground. If the owners keep all this seed for their own use, two days will generally load their vessel and send them to their planting beds, after which they may return or may go elsewhere. If they prefer to sell it to the larger planters, who are all ready to buy, they were paid, this year and last, 10 cents per bushel. The second day yields more poorly, and at the end of a week 12 or 15 bushels to the man is considered a good day's work. To compensate for scarcity, 15 cents is paid by buyers. This seed consists almost wholly of the growth of the year, or at least of the previous year, and cannot be separated from the shells to which it is attached. The careless culling which is done, therefore, gives little back. On the upper part of the river-grounds, however, the spawn grows upon the gravel of the bottom, and there are few shells. There are also brought up a few marketable oysters, that have escaped heretofore until they have attained a considerable size. Though very finely flavored, these large natural oysters are not of good appearance, and bring only 60 to 80 cents a bushel in market.

STATISTICS OF BARNEGAT, TUCKERTON, ETC.—Oysters in these waters grow only moderately fast, and must lie three or four years before being taken to market. From Tuckerton large quantities are sold to Atlantic City men, who fatten them on the sand-bars and sell them the same season. The best of all the oysters at present are said to come from in front of Horse point, Manahawken, bringing considerably more money than the others. They are planted more thinly there than in Tuckerton bay, which is said to make the profitable difference. Prices in 1879-'80 were \$3 for large and \$2 for small sizes, per 1,000, for Tuckerton plants, while Manahawken's stock brought a large advance upon this.

This year (1880) has proved very good for this district, both in abundance of seed and in the quality of the planted stock which is now (October, 1880) being sent to market. The summer of 1879 was a poor one for growth and prices, and much of the seed died, so that the crop which was gathered in 1879-'80, and reported upon for my use, is not considered as high as before, or probably up to this year's product. The statistics are as follows:

Oysters raised for market, 1879-'80.

	Bushels.
In Barnegat.....	3,000
In Manahawken.....	5,000
In West Creek.....	30,000
In Tuckerton.....	30,000
In Bass River.....	10,000
In Port Republic.....	10,000
Total.....	88,000

Families supported.

In Tuckerton.....	200 to 250
In West Creek and Manahawken.....	175 to 200
In Bass River.....	50 to 75
In Port Republic.....	50 to 75
Total.....	475 to 600

Number of sail-vessels, about 500; value of same, about \$125,000.

Number of small boats, about 750; value of same, \$7,500 to \$10,000.

The list of vessels reported by Mr. George W. Mathis, collector at Tuckerton, New Jersey, as registered in this district and employed in the oyster- or clam-fishery, reads as follows:

Name.	Tons.	Name.	Tons.	Name.	Tons.
Sarepta.....	5.02	Louis D. Senat.....	9.04	Henrietta J.....	7.35
Hero.....	5.17	I Wonder.....	9.66	Mary Grey.....	15.96
William H. Mills.....	11.83	Lidie Jones.....	12.37	Rhoda and Jane.....	6.57
Golden Feather.....	6.91	General J. L. Selfridge.....	21.36	Alice Ridgway.....	5.49
H-10-W-8.....	5.04	Sunbeam.....	22.16	Dart.....	5.11
Maggie Bell.....	12.83	Four Brothers.....	11.34	Kate Becker.....	17.3
Laura V. Stiles.....	5.78	John A. Parks.....	10.73		

ABSECON AND VICINITY.—Reed's bay, Little bay, Absecon bay, and the other thoroughfares through the salt marshes behind Brigantine beach, afford good opportunities for growing oysters, and have long been utilized. In the neighborhood of the town of Absecon there are said to be one hundred men, part farmers, part fishermen, who regularly plant oysters and supply the market. Only a very few of these, however, devote their main time to it. It was to meet the case of these inclosed and almost dooryard waters, that section 14 of the revised statute relating to oysters was made, which enacts that persons owning flats or coves along the shores of the tide-waters between Great Egg Harbor and Little Egg Harbor, Atlantic county, inclusive of the shores of the rivers that lie within that county, may mark out ground by stakes of a prescribed size and number, for the planting of oysters or clams, but no stakes can be set beyond ordinary low-water mark. Section 16 also applies to Burlington county, but seems to add nothing to section 14. These planters get their seed (small) by going after it in their own sloops to Barnegat bay, the Gravelings, or Egg Harbor. It is put down in shallow water, on a soft bottom, and allowed three

years' growth. This brings it to "box" size, and no oysters are sold from Absecon less than this size. Until last year the price was \$8 a thousand, but last year some lots were sold as low as \$6, because not up to the usual quality. The shipments are all made by rail to Philadelphia, and sold there on commission, a system which has lately given rise to much complaint on account of alleged frauds.

In addition to the northern oysters, bred as I have described, other stock is also brought, from Virginia and given a season's growth. The total raised for market during the past, however, of both kinds, by Absecon planters, would not exceed 20,000 bushels, three-fourths of which were from the Chesapeake. This would hardly represent an average crop, since many planters preferred to let their oysters lie to selling them at so poor prices.

ATLANTIC CITY.—At Atlantic City there are three firms of oyster-planters and dealers, consisting of five men. They deal more or less in fish and provisions also. The oysters handled at present consist of southern stock (six or seven thousand bushels), which do well here, if they can be procured in good order. Besides this about 18,000 bushels of full-grown, marketable oysters are bought at Absecon and Barnegat and laid down here on a hard bottom, in shallow water, where the beds go dry at low tide, simply for summer use in the large seaside hotels which make Atlantic City famous. It is probably not fair to count these in statistics of production.

At Brigantine beach there is a similar industry, selling at Atlantic City, but not of much account, and hardly to be reckoned as a point of original production.

LAKE'S BAY.—Just behind the island upon which Atlantic City is built, and to the southward, is an extensive sheet of inclosed water known as Lake's bay, which is continued southward in numerous channels through the salt-marshes behind Absecon beach, until it reaches the inlet and mouth of Great Egg Harbor river. Along the shore of this bay are various villages that carry on extensive operations in oyster-culture, and have done so for many years. I refer to Pleasantville, Smith's Landing, Bakersville, Leedsville, and Somer's Point. The best part of the bay is said to be what are called the "muddy beds", directly in front of Smith's Landing, and about a quarter of a mile distant. The advantage of these beds is said to lie in the fact, that the drainings from the "platforms" flow over them at low tide, giving them a bath of fresh water twice daily. Much damage occurs here, however, whenever northwest gales occur, the soft mud in the marshes being loosened and drifted off into the bay to settle on the beds. The only enemy of the oyster reported here as of much consequence, is the *Urosalpinx*, called by the natives "snail-bore"; these mollusks become very troublesome some years, but had not occurred in great numbers during the season of my visit (1880).

LAKE'S BAY PLATFORMS.—The "platforms" to which I have alluded, are in some cases nothing better than a mere plank floor, set in the bank in such a way that a boat-load of oysters, which are always extremely muddy and foul when first taken from the beds, may be floated alongside at high tide, and the oysters shoveled overboard upon it. The receding tide leaves this bare, and at the same time opens sluice-gates, which allow a stream of fresh water from the land to cover the oysters, under the genial influence of which they rid themselves of the distasteful brine contained within their shells, and also puff out their forms to an appearance of fatness very pleasing to the epicure.

Frequently, however, an elaboration of the platform is constructed, which is worthy of special note. The bank is dug into and piles are driven, until a floor can be laid at a proper level below high-water mark. Over this a tight shed is built, sometimes 75 feet long by 25 feet wide, and of considerable height. On one side of this shed a canal is dug, into which a boat may run, and its cargo is easily shoveled through large openings in the side of the shed on to the floor within. On the opposite side of the shed, both within and without, run floors or stages above the reach of high water, where the oysters can be piled after freshening, packed in barrels and loaded on boats or drays for shipment. When the tide goes down it leaves the oysters upon the platform within the shed nearly bare, a depth of 8 or 10 inches of water being retained by a footboard at the seaward end of the shed. An arrangement of sluices now admits the fresh water, and the freshening begins. Over the space devoted to the platform or vat, at a sufficient height to let a man stand underneath to shovel up the oysters for packing, in which work he uses a dung-fork, is a broad shelf or garret, where barrels, baskets, boat-gear, and other small property can be safely stowed, since the whole shed, platform, oysters, and all, can be locked up. I have given an illustration of one of these houses at Smith's Landing.

SHIPMENTS OF OYSTERS FROM LAKE'S BAY TO PHILADELPHIA.—From these settlements on Lake's bay two lines of railway run to Philadelphia, side by side. One is the Camden and Atlantic, and the other the Philadelphia and Atlantic City (narrow gauge). Since the recent completion of this latter road, all the Lake's bay oysters have been sent by its line, which offered superior advantages; and as none go to Philadelphia (the almost exclusive market) by any other means, the railway's account of transportation of oysters may be accepted as supplying the statistics of the annual product of the region. The agent at Pleasantville gave me the figures for the season of 1879-'80, which are as follows:

Oysters sent to Philadelphia.

624 car-loads, at 70 barrels	barrels..	43, 680
43,680 barrels, at about 3 bushels to 1 barrel	bushels..	130, 000
43,680 barrels, at 500 oysters to 1 barrel	oysters ..	21, 840, 000
43,680 barrels, at 240 pounds to 1 barrel	pounds..	10, 483, 200
43,680 barrels, at 26 cents freight		\$11, 356 80

These oysters were sent by from 100 to 120 shippers, which represent the number of planters. There are from 50 to 75 men in addition, who are hired, and so getting a living out of the oyster-interests here. The narrow-gauge railway company proposes to run a line, which may be finished by the time this report is published, down the bay shore to Somer's Point, Beesley's Point, and Ocean City. This will furnish so many additional facilities for shipping, doing away with the present necessity of hauling the oysters by team from one to seven miles to the station, that a large increase of oyster-production is anticipated. Many new men are engaging in planting, and the expectation seems well founded.

Although I have reckoned all the shipments in the table printed above in barrels, yet in fact the use of sacks of gunny-cloth is common here. The sacks, I was told, cost from 8 to 9 cents, and will last for ten or fifteen trips, if they can be got back from the consignee in Philadelphia. Barrels are cheaper, since they can be bought at 10 cents apiece, in Philadelphia and Atlantic City, where the summer hotels consume enormous quantities of imported flour, and they will generally be returned for several trips. Two sacks are counted to the barrel, or 250 oysters to the sack.

The prices received for Lake's bay oysters last season averaged 40 cents, at which rate the total value of the crop, which may be very closely estimated at 130,000 bushels, would come to \$52,000. Divided among 100 planters this would give an average income of about \$520.

OYSTER-FLEET OF SOMER'S POINT DISTRICT.—I counted at Smith's Landing about 33 pretty good sail-boats and about 50 garvies, etc. I judge from inquiries, that this was one-third of all owned between the railway and Somer's Point, and that \$200 apiece would be a large average estimate for the value of the sail-boats. Many of them devote much of their time, in summer, to raking clams from the extensive grounds at the lower end of the bay. In the custom-house of this district, situated at Somer's Point, I find reported as registered on July 1, 1880, 59 vessels engaged in oystering and clamming, as follows:

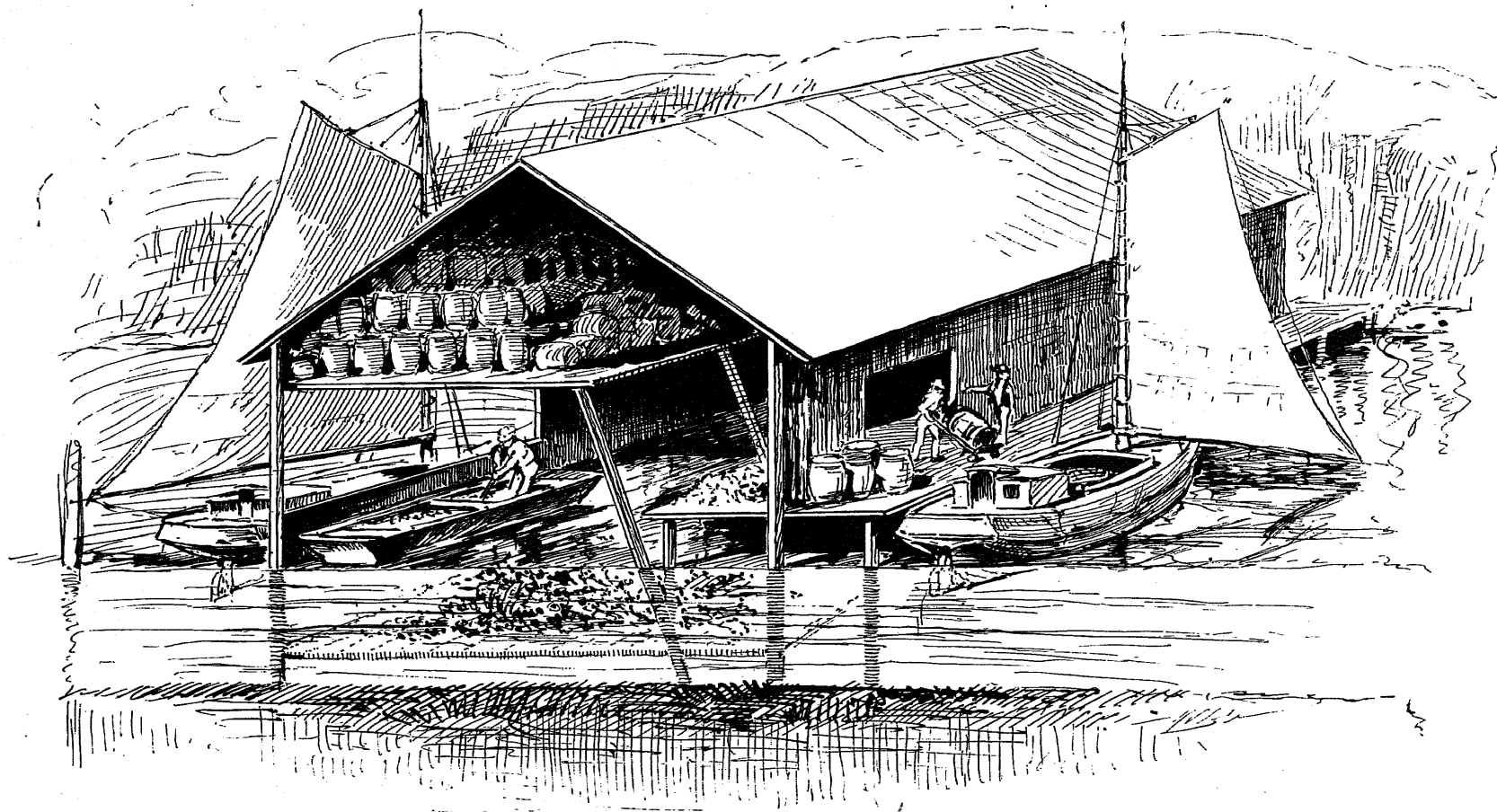
Name.	Tons.	Name.	Tons.	Name.	Tons.
A. Robinson	30.87	Mary Ella	28.92	L. C. Wallace	16.61
Alfred C. Harmer	22.25	R. B. Leeds	34.79	Lela	9.17
Belle	20.24	Susan Leach	22.00	Linnie Norcross	8.50
C. P. Hoffman	41.75	Two Sisters	26.48	Little Sallie	13.90
Charles Lawrence	21.50	Wallace M. French	23.19	Lizzie	7.28
Cordelia R. Price	42.30	Alert	7.46	Maggie Sutphen	16.48
Deceiver	22.64	Andrew Luffbarry	9.67	Major Anderson	17.51
Estella	40.25	Belle	11.93	Malcom	5.63
George S. Courtney	25.15	Charles Haight	14.70	Margaret Ann	8.51
H. M. Somers	31.23	Dan Scoy	15.49	Manetta Sheldon	9.35
Hattie J.	30.03	Ella M.	15.49	Nautilus	10.95
Henry J. May	25.42	Emily Smith	13.09	Ocean Star	12.69
J. A. Chamberlin	61.25	Express	7.32	Rhoda S.	18.05
J. G. Crate	43.32	Golden Light	16.00	S. M. Daugherty	10.99
J. & C. Merritt	35.41	Hunter	14.02	U. S. Grant	8.47
James W. Lee	20.88	Idelwild	9.73	Uncle Dan	11.49
John Anna	29.36	J. F. Knapp	16.24	Volant	7.44
Joseph	31.70	Ioetta	12.60	William Albert	6.22
Margaret A. Amelia	23.85	John Wesley	15.76	Wonder	7.49
Mary Diston	33.18	Julia A. Reid	11.41	Total	1,165.60

The collector of the district, Mr. Thomas E. Morris, adds: "In addition to the above there are some hundreds of small boats, under five tons, engaged in catching clams and oysters in this district, of which I can give no account." I should say that about \$75,000 would represent the total value of all the floating property, large and small, devoted to the shellfisheries in this neighborhood, which includes the coast of Burlington and Atlantic counties, but is practically restricted to Lake's bay and Great Egg Harbor.

GREAT EGG HARBOR AND DENNIS.—Having crossed the Great Egg Harbor river, you find yourself in Cape May county, and still among oystermen.

The Great Egg Harbor river and bay, with its tributary, the Tuckahoe river, contain large and ancient seed-beds, which supply a large part of this coast with all the seed transplanted. These beds have been greatly extended in area since they began to be tonged, and do not seem greatly to suffer in consequence of the yearly raids made upon them. In the Great Egg Harbor river several men have, within a few years, undertaken to raise young oysters by planting cultch (shells) and catching spawn. They do not use this themselves, but when it is a year old sell it to planters, who paid this year about 40 cents a bushel. There is no difficulty in securing such a supply of spawn every season. The abundance of seed-oysters in this bay formerly is proverbial. I was assured by more than one person, that years ago it was the custom, at the beginning of the season, to anchor a scow upon the ground and not move all day. Continuous tonging in one spot, from sunrise to sunset, would not exhaust the bottom. The seed lay several inches deep, apparently, and from 100 to 200 bushels could be caught by one man in a single day. Now the seed is far thinner, but the beds are spread over a largely increased area, due to incessant tonging.

Adjoining Great Egg Harbor and the neighboring coast is Upper township. South of it lies Dennis, which stretches across to the Delaware bay, and is bounded southerly by Townsend's inlet. My information in respect to both is chiefly from Mr. Peter Watkins, a shipper, and one of the largest planters in the district.



A LAKE'S BAY SHIPPING-HOUSE AND "PLATFORM" FOR FRESHENING OYSTERS, SMITH'S LANDING, LAKE'S BAY, NEW JERSEY.

Dennis township contains Dennis creek and West creek on its Delaware side, both of which abound in a natural growth of oysters every year, and in neither of which, consequently, is there any planting, more than perhaps a little desultory "laying out" in tributary creeks for private use. The laws of 1857 forbade dredging for oysters in Dennis creek, and forbade any taking of oysters from natural beds there "to be sold outside of Cape May county", with an especial injunction against non-residents. The natural oysters caught there grow in the mud, in a crowded condition, and hence are long, slender, and strap-shaped. They get the name "Stuckups" in consequence. Their shells are weak and thin, because of an absence of carbonate of lime in the soil of the surrounding region. The water here is very fresh; but the best of the full-grown oysters are annually peddled about the neighborhood, and regarded as of superior quality as a fresh oyster.

The business, then, of this district, comprised in these two townships, lies in the sounds and thoroughfares on the eastern shore, between the mainland and the outer (Peck's and Ludlam's) beaches. The bottoms of these sounds are muddy—some tough, some soft—except upon the bars, which are hard sand. The ordinary depth at low water is less than two feet, while the bars go dry every tide. Oysters are planted in both places, but chiefly on the mud. The seed used all the way from Townsend's inlet to Great Egg Harbor, is for the most part gathered in that harbor and its rivers. The price varies greatly. Planters used to give 45 cents a bushel, and got a heaping half-barrel for measure. In 1879 they paid 37 cents, measured in a scant basket, and this year the price has been 40 cents on the grounds, with 5 to 7 cents freight to be added. This is the year-old and larger clean seed, known locally as "plants"; the small "blisters" being little used here, since they never do well, nine-tenths of them failing to survive the winter.

Nearly every man who lives along the shore is more or less concerned in the oyster-planting, yet as a regular business it is hardly more than ten years old. My informant counted 30 planters along the eastern water-front of the two townships, but not all of them depend upon oystering for even a majority of the support of their families. There are none, indeed, but who also conduct a farm; many are concerned in the fisheries, others employed half the year at the life-saving stations, and another portion spend the summer-leisure in raking clams. A large crop is not, therefore, to be expected from this coast, and it is estimated as follows:

Two planters raise 1,500 bushels	3,000
Four planters raise 600 bushels	2,400
Twenty-four planters raise 300 bushels	7,200
	<hr/> 12,600

The planting of southern stock has not, as a rule, been profitable in this district. It is considered better policy to wait longer for the more hardy but slow-growing Egg Harbor plants, than to risk the easily killed, tender but more rapidly-matured, Chesapeake. Although the original expense of planting the northern oysters is largely in excess of that of the southern stock, the price received is larger in market at the end, and the risk of loss far less. Yet every few years some adventurous spirit makes a success of his southern importations, and wins very large profits. This chance is alluring, and a thousand or fifteen hundred bushels are brought up every year from Virginia.

All of the oysters raised here go to Philadelphia by rail. They are prepared for market by the usual freshening on platforms at ebb-tide, and bring high prices. This season (1880) from \$4 25 to \$5 a barrel have been received by the shippers, who paid the small planters \$3 30 at the shore, or \$3 50 delivered in barrels at the railway station. The freight into the city is 40 cents, with an added 10 cents for cartage.

EARLY OYSTER-BUSINESS OF CAPE MAY COUNTY.—Before the railway was put here all the oysters (chiefly natural growth) were sent to Philadelphia and New York by water. From the diary of Jacob Spicer, quoted in Dr. Maurice Beesley's *Early History of Cape May County* (Geol. Surv. of N. J., 1857), occurs the following item:

There is at least ten boats belonging to the county which carry oysters; and admit they make three trips fall and three trips spring, each, and carry 100 bushels each trip, that makes 6,000 bushels, at what they neat 2s. per bushel, £600.

Six hundred pounds sterling was about \$3,000; now the annual resources of the county in oysters approach \$60,000 in value, and the shipping involved on the ocean shore of the county alone, consisting of a dozen small vessels in the Chesapeake carrying-trade, and perhaps 40 sail-boats for local service on the beds, are worth not less than \$30,000. A portion of this wealth, however, remains to be accounted for.

OYSTER-FLEET OF THE BRIDGETOWN DISTRICT.—The custom-house of the district is at Bridgeton, and the collector has taken the trouble to furnish me with a complete list of the vessels oystering and registered in his office in 1880. The district comprises all the coast from the Tuckahoe river, Cape May county, around to Alloway's creek, in Salem county, and the list is as annexed:

OYSTER-VESSELS REGISTERED AT BRIDGETON.

SCHOONERS.			
Name.	Tons.	Name.	Tons.
A. S. Mulford	24. 81	Arctic	34. 32
Alice C. Ogden	34. 39	Calvin Dilks	25. 62
Alice M. Ridgway	26. 08	Caroline H. Mears	32. 06
Almedia	21. 51	Cashier	24. 49
Annie C. Moore	27. 27	Charter	22. 64
Anna Mary Newcomb	29. 11	Cecelia B. Sheppard	29. 98
Amanda B. Lore	21. 30	Dawning Light	22. 67
		D. C. Adams	29. 59
		D. P. Mulford	27. 00
		Dove	22. 20
		E. Fowler	33. 85
		Edna M. Lore	33. 71
		Elanora	33. 23
		Elizabeth B	21. 78

THE FISHERIES OF THE UNITED STATES.

SCHOONERS—continued.

Name.	Tons.	Name.	Tons.	Name.	Tons.
Ellsworth	26.36	Laura Parsons	24.59	R. S. Burney	24.96
Equal Rights	25.25	Lizzie M. Weaver	33.42	Richard B. Jones	23.97
Falcon	21.28	Mary A. Rogers	24.03	Richard Vaux	24.63
G. Gandy	29.11	Mary F. Sheppard	32.06	Sallie and Ceola	32.00
G. W. Crist	21.81	Mary H. Lake	31.83	Samuel P. Dutton	20.99
General McClellan	23.81	Mary W. Mears	34.12	Senator	24.75
General Palmer	26.42	Mary A. Hand	33.55	Snow Flake	35.24
Harriet Smith	27.46	Mary & Margaret	21.34	State Rights	23.18
Hannah and Ida	40.68	Marcus L. Godfrey	24.17	Sarah Elizabeth	26.00
Hattie R. Johnson	29.13	Mattie L. Ford	32.20	S. C. Kemble	25.15
Ida Marts	24.98	Messenger	23.34	T. B. Husted	27.08
Irene A. B. Crawford	20.86	Milton R. Studams	59.59	T. O. Ladow	24.86
J. B. Taulane	25.16	Nettie and Lena	31.89	Tidal Wave	30.66
Jacob Rivell	35.61	North Star	20.10	Village Belle	28.26
James H. Nixon	32.27	Prize	28.61	Volant	26.28
Jennie R. Fow	25.84	R. Blackman	29.98	White Wing	22.76
Julia B.	25.96	R. D. Bateman	29.51	William C. Lore	31.85

Most of these vessels are new, and cost \$5,000 each. A present valuation of all, however, would reduce that amount to an average of \$2,000, which would make the total \$144,000.

SLOOPS AND SCHOONERS UNDER TWENTY TONS.

Name.	Tons.	Name.	Tons.	Name.	Tons.
Acasta	13.97	Ida	7.77	Melvina	11.89
A. Hulings	8.31	Ida Florence	9.61	Morris R. Lee	6.33
Advance	6.55	Ida May	11.62	Nellie	11.93
Addy Lee	6.62	James D. Godfrey	15.95	Nip Cat	7.53
Alice M	14.65	James W. Nale	6.63	Northern Light	18.69
Amanda & David	13.99	James Howard	11.51	Only Son	8.22
Anna B.	7.90	Jacob B. Lee	6.50	Oregon	12.98
Anna M	10.44	Jesse L. Rutter	6.24	Passport	11.37
Annie N. Carey	8.24	John P. Prifold	19.59	Pathway	18.08
Annie Neary	9.36	J. Lippincott	10.33	Polka	16.57
Annie M	5.11	Joseph J. Dughan	6.28	Pilot	8.43
Arctic	11.46	Kate and Melissa	13.73	R. D. Mitchell	7.30
Bay Queen	19.48	Kate and Sarah	15.29	Ray	10.82
Belle	16.56	Laurel	15.06	Rattlesnake	6.37
Bell Sage	10.10	Leader	7.84	Rebecca	16.13
Black Dart	7.30	Leader	14.85	Rebecca	6.17
Callena	12.62	Lillie D	17.21	Richard Silsbee	7.48
Charles T. Sheppard	14.98	Little Giant	9.03	Ringgold	19.98
Charlie Smith	18.52	Little Harry	6.64	Rollin S	12.03
Caroline	17.81	Little Moses	5.70	Sarah Cox	11.43
Carrie M. Edwards	6.55	Linnet	5.82	Sarah Jane	9.82
Clara	14.07	Lizzie Liber	14.68	Sarah Jane	9.52
Colfax	11.05	Lorell H. Sharp	7.85	Sarah Sullivan	16.22
Cygnnet	14.72	Lucy P	10.96	Sarah & Hannah	18.24
Daniel F	14.81	Lucy	14.47	Sea Flower	8.98
Daniel B. Harris	14.96	Lucy Turner	16.27	Samuel Hanners	10.45
Detector	17.08	Lydia B	14.84	Sharp Shooter	6.11
Dove	9.43	Lydia and Sylva	15.83	Spencer C	8.47
Echo	6.13	Lucy Hopkins	9.50	Star of the West	18.94
Ella C	8.36	M. P. Ogden	10.50	Star Light	5.24
Ella D	14.05	M. and W. Robinson	13.73	Sun	16.19
Ellen H. Webb	9.58	Madora & Emma	8.98	Sue	9.62
Eliza Carlisle	6.74	Maggie D	9.85	Trader	12.56
Elmira H. Lake	9.95	Mary E. Davis	7.39	Trade Wind	6.32
Emily R. Green	14.04	Magnolia	16.97	Trimmer	7.63
Emily and Rebecca	10.79	Mary A. Bickley	13.23	Thomas R. Berry	9.98
Franklin S	18.67	Mary & Phebe	11.61	Two Friends	9.92
G. H. Vansciver	13.72	Mary & Eliza	10.19	Tryphenia	16.99
George L. Broom	17.90	Mary Ella	7.61	Union	18.88
George & Morton	16.67	Mary & Emma	19.54	United States	15.72
Glide	9.63	Mary & Ellen	6.61	Vandalia	19.82
Golden Feather	7.57	Mary Fans	6.76	Vigeland	5.76
H. Schellinger	11.30	Maria & Francis	16.67	Victory	10.69
Hannah M. Bell	6.30	Mary Ann	19.55	War Eagle	7.11
Harry C	7.97	Martha R	7.89	William A. Brooks	13.61
Harriet Elmer	12.03	Martha C. Campbell	15.25	William B. Foster	9.56
Hattie B	5.56	Margaret Hall	9.43	William Stevenson	16.05
Henry and Howard	14.31	Mattie Holly	8.04	William Vanneman	10.31
Henry S. Lutts	10.08				

Many of these vessels are old and of less value than they once were. They are all of remarkably pretty model, however, and completeness of equipment. Experts assured me, that for those over ten tons (of which there are 81) an average value of \$600 would be a fair estimate. This would yield \$48,600. Probably the sum of \$30,000 would cover the remainder. The discrepancy of 38 between this list and that of the oyster-association in the Delaware, described on a subsequent page, is due to the fact that many of the association vessels are registered elsewhere. Of boats less than five tons, and unregistered, there are probably 100 used in the district for oystering and clamming, and their value would add perhaps \$20,000 to the figures above, making a total of nearly \$100,000 invested in floating property by the Cape May and Delaware oystermen.

MIDDLE AND VICINITY.—Next below the district represented by Mr. Watkins' statements, foregoing, comes the township named "Middle", where I happily supplemented my own observations by the intelligent statistics of Mr. Edward Hand. This district includes a great extent of sounds and thoroughfares upon its seaward shore, and there are also opportunities for oyster-growing along the western coast. The general characteristics of ground and methods of planting do not differ from those above. In this district there are enumerated about 83 planters, three-fourths of whom may be said to support their families in this way. This is more completely true than in Dennis township, because the business here is more extensive, takes more time, and yields larger results.

The Bay shore is occupied by 14 planters, all of whom use exclusively southern oysters. They are brought as "seed" (small) almost entirely from Hog island, and (of somewhat better quality) from Chincoteague. These men own ten sloops, of from 30 to 60 tons burden each, which are used wholly in bringing oysters by the outside passage from the South, not only for their own use, but also to supply the men on the eastern shore and below them, and also to carry to Cape May or Philadelphia their own harvest, since the ocean-side men ship their crop by rail.

On the sea-shore nine-tenths of all the oysters raised are of small southern seed, the rest being plants secured in the marshes about home (only about 4,000 bushels of this will be saved a year all the way from Townsend's inlet to Cape May) and in Great Egg Harbor. It will be seen by this, that the planters of this district have a different idea of the profits in southern stock from those of Dennis. This arises from the fact, that they find their chief market in supplying the summer hotels and population of Cape May, and can sell an oyster of inferior quality to those raised in Dennis, all of which go to Philadelphia for "prime" trade. The argument of the "Middle" men is this: Last year (1879) we could buy Chesapeake seed at 18 cents, which became fit for market in two years. For northern seed, at the same time, we had to pay 42 cents first cost and freight, and had to wait three years for it to grow, all the time at the risk of destruction by ice. The selling-price of the two will not differ at the end in favor of the northern stock more than \$1 25 a barrel. A glance shows how much more profit lies in the southern stock. One planter, a year ago, bought tolerably large southern seed at 38 cents a bushel. They are doing well, and he expects that eighteen months after putting them down he will sell them for \$4 50 per barrel. Granting that he takes up as many bushels as he put down (highly probable), he will make \$1 42 per bushel profit.

Of the planters in this township—

26 sell a present average of 1,000 bushels a year	26,000
67 sell a present average of 250 bushels a year	16,750
Total annual crop.....	42,750

The planters get \$1 per bushel at the shore for their oysters this season, many selling on contracts previously made with shippers to take their whole crop. A few send to market themselves. About one-fourth or one-third of this crop goes to Cape May; the rest (chiefly from Delaware shore) is sent to Philadelphia.

STATISTICAL RECAPITULATION FOR NEW JERSEY (OCEAN SHORE):

Number of planters and shippers	855
Extent of ground cultivated	1,300 acres
Value of shore-property	\$75,000
Number of vessels and sail-boats engaged	675
Value of same, including small boats, etc	\$270,000
Number of men hired by planters and dealers	150
Annual earnings of same	\$60,000
Total number of families supported	900
Annual sales of—	
I. Native oysters	250,000 bushels
Value of same	\$250,000
II. Chesapeake "plants"	77,500 bushels
Value of same	\$60,000
Total value of oysters sold annually	\$310,000

M. DELAWARE BAY.

43. NEW JERSEY AND DELAWARE SHORES OF DELAWARE BAY.

EARLY HISTORY.—The oysters of Delaware bay were prized by the earliest settlers, and there are frequent allusions to this resource in the early narratives. Thomas Campanius Holm, chaplain to Governor Printz, in 1642, for instance, mentions "various kinds of shellfish, as oysters, lobsters, sea and land turtles, cockles and muscles". Speaking of Delaware bay, more particularly, he says:

There are oyster banks and an oyster strand all the way to Bomptie's Hook [now Bombay Hook] on both sides of the river; these oysters are so very large that the meat alone is of the size of our oysters, shell and all.

MAURICE COVE: TOPOGRAPHY AND CHARACTERISTICS.—The center of the present oyster-industry in the Delaware bay and river, on the New Jersey shore, is at Maurice cove, in Cumberland county, which is reached by the Cumberland and Maurice river railroad from Bridgeton. This shore is bordered all the way by extensive marshes, through which innumerable small creeks find their way from the interior, and which contain many open places called "ponds". Throughout these creeks and ponds, in the tide-ways and along the edges of the sedge-plats and islands, oysters have always grown in great profusion. In addition to this the bottom of the bay and of the Delaware river, from Cape May beach clear up to and a little above Cohansey point, at the southern end of Salem county, a distance of not less than 50 miles, is everywhere spotted with oyster-beds. The same is true of the opposite (western) shore, which will be considered in another chapter. These oyster-beds are not confined to the shallow waters near shore, or to the sedge-plats, but are apparently scattered over the whole bottom of the bay. Even the ship-channel, 90 fathoms deep, contains them, as experimental dragging shows. How this might have been a century ago I know not; but such is the present condition. In *Watson's Annals of Philadelphia*, 1843, I find some interesting facts stated in regard to this district. Mr. Watson says:

Having been at some pains to learn something of the present and past state of our oyster-beds in the bay, I have arrived at sundry conclusions, such as these: that our fields of oysters, notwithstanding their constant delivery, are actually on the increase, and have been augmenting in extent and quality for the last thirty and forty years. This fact, strange to the mind of many, is said to be imputable to the great use of the dredging-machines, which, by dragging over a greater surface, clears the beds of impediments, and trails the oysters beyond their natural position, and thus increases the boundaries of the field. These dredges are great iron rakes, attached to the vessel by iron chains, and which trail through the oyster-beds while the vessel is moving over them by the force of the wind in her sails. In this way many more oysters are dragged and loosened from the mud than the rake will take up, and thus are left free to propagate another future supply.

It is said to be a false kindness to oysters to let them alone, as they did in New York to their famous "Blue Points", by a protecting law, which served only to have them so covered with mud as to actually destroy them.

An old oysterman informed me, as an instance of the increase of oyster-beds, that he used to visit a little one, thirty years ago, of one to two hundred feet long, and growing, known as the *new bed*. There is a field of size, also beds of size, off Benj. Davis' point, and Maurice river, New Jersey, and off Mahant's river, Delaware side. Since the formation of the Breakwater, lobsters and black-fish have come there in quantities. By and by we may expect much increase of them there. It is discovered to be a fact, in all the ponds found in the sedge marshes lining the two shores of the Delaware, that in them are found the best oysters, and that in one of them called the Ditch, which is an artificial canal cut into the marsh, fine oysters are always to be fished out. It has been remarked by my informant, and corroborated by others, that although oysters are found in salt-water, they will not bear to be removed to water which is saltier. Experiments have been made of hanging a basket of bay oysters over the vessel's side exposed to the saltier sea-water, and they have been found to die in twelve hours. Hence the necessity of planting them in waters less salt, or at least not saltier than their native beds. Those caught after a copious rain are said to be much finer than those taken from the same place before the rain.

The oyster is of a tenacious nature, attaching its gelatinous substance to almost all bodies with which it comes in contact—such as wood, iron, or stone. When they are found attached to glass bottles, they are always found much fatter for it.

Those who make a business of transplanting come early in the season, and carry them away in their boats to the *inland waters* about Egg Harbor, etc., from whence they are taken in the fall quite fat, and carried overland to the city market and sold as Egg Harbor oysters.

Not all of this quotation may be wholly relevant, but there is so much in it that I have thought it no harm to give it all.

SPECIAL LEGISLATION PREVIOUS TO 1856.—So important had the oyster-fisheries in this region become thirty years ago, that they were the subject of much special legislation, which appears in the revised statutes of 1856. These laws are substantially as follows:

SECTION 1. Authorizes the board of chosen freeholders of Cumberland county to occupy for twenty years, for the use hereinafter stated, Maurice river cove within the following boundaries: "Beginning at low-water mark, directly opposite East point, in the township of Maurice river, Cumberland county, and running thence a south course to the main ship channel; thence by a straight line to low-water mark, directly opposite to Egg Island point, in the township of Downe, in said county, and thence by low-water mark the several courses and distances of the shore bordering on the said cove, and covering the mouths of the several streams that empty into said cove, to the place of beginning." But the "natural oyster-beds in Maurice river cove or Delaware bay, known severally as the East point beds, Andrews' ditch beds, the Pepper beds, and the Ballast beds, and the beds that fall bare at low tide, shall not be occupied for planting oysters, nor dredged upon, nor shall oysters be taken from the said beds, nor from any of the rivers or creeks of Cumberland county, for the purpose of planting (but all citizens of this state shall have free access to them to catch oysters for their own use)", under heavy penalties for violation.

SEC. 2. Authorizes the board of chosen freeholders of Cumberland county to appoint one or more persons, holding office for one year, to stake off the said cove and make a survey and map of the shores and land covered with water, a copy of which shall be filed in the

county clerk's office, and "to lay off and cause to be marked by stakes such subdivisions of said cove, not exceeding ten acres each, as in their discretion shall seem best designed to promote the planting and growth of oysters; *provided*, the navigation of said cove be in no wise obstructed thereby; *provided*, that no person shall own more than ten acres, and no company more than thirty acres."

SEC. 3. And it shall be lawful for the said commissioners, after subdividing the said cove, as aforesaid, to lease the same at public vendue to the highest bidders, for not less than one nor more than five years; the bidders shall in all cases be citizens of the state, and shall pay the sum bid annually during the term of the lease. Upon the payment or securing the payment of this annual rent, the bidder shall be entitled to the exclusive use of the designated land for the purpose of planting oysters during the term specified in the lease.

SEC. 4. Makes the penalty for trespassing upon or removing oysters from the leased oyster-lots, without written permission of the owner, liability to treble damages; for second offense fine not exceeding \$100, imprisonment for 60 days, or both.

SEC. 5. Enjoins upon the commissioners the enforcing of penalties and forfeitures against non-resident offenders and the collection of rents due; after paying needful expenses and receiving compensation awarded by the board of chosen freeholders, the residue of money collected shall be applied to the public school fund.

SEC. 6. The commissioners shall make an annual report, under oath, of their proceedings and money transactions.

SEC. 7. Excepts all natural beds from the operation of this law, which took effect April 1, 1857.

SUPPLEMENTS.

SEC. 8. Every boat or vessel lawfully catching, planting, and growing oysters on the flats and grounds of Delaware bay and Maurice river cove, adjoining the counties of Cumberland and Cape May, shall be assessed annually \$5 upon all boats and vessels not exceeding five tons, and \$1 per ton, custom-house measurement, upon all boats and vessels exceeding ten tons. This assessment to be paid by the master of the vessel to the collector of the oyster-fund, between March 1 and May 1 of each year.

SEC. 9. Appoints G. Compton special officer, to enforce the law, at a salary of \$500 per year.

SEC. 10. Provides that the said special officer shall occupy an office at Port Norris, where complaints of the violation of the oyster-laws may be made. This officer may "arrest any person or persons found stealing oysters in Maurice river cove or Delaware bay, or from the banks in Maurice river, or in any of the rivers or creeks of Cumberland county; and any person or persons convicted of such offense shall, for every bushel of oysters found in his or their possession, pay the sum of \$1 50, and shall also, for every such offense, forfeit and pay the sum of \$100. It shall be the duty of all citizens, when called upon, to aid the special officer in making seizures or arrests, and any citizen, or captain, or commander of sail- or steam-vessel who refuses said aid shall pay \$50 fine.

SEC. 11. Appoints a collector of the oyster-fund of Maurice river cove, who shall assess and collect all dues from vessels; shall issue certified licenses, holding force for one year, to all captains of boats and vessels who shall pay the taxes heretofore required, permitting them to engage in catching or planting oysters; shall refuse licenses to all boats or vessels not complying with the conditions of this act; shall pay the salary and expenses incurred by the special officer; and shall himself receive for this service 5 per centum of all moneys he collects.

SEC. 12. The collector shall keep true records of his transactions, record all licenses, etc., and furnish bonds in \$2,000 for the faithful performance of these duties.

SEC. 13. Every captain, upon taking out the beforementioned license, shall take oath that he will at all times diligently aid in the enforcement of the laws of New Jersey for the preservation of clams and oysters, and will promptly report to the special officer any knowledge of any violation of said laws; and any captain refusing to take out said license and make said oath, shall forfeit his right to catch or plant oysters in Delaware bay or Maurice river cove, and if found doing so shall incur the penalties of a trespasser as heretofore prescribed.

SEC. 14. The proceeds of all property seized and sold shall be paid to the collector for the benefit of the oyster-fund. (As a rule, one-half of all fines are similarly appropriated.)

SEC. 15. All persons growing oysters in Maurice river cove are authorized to meet annually on the first Tuesday of March, at Port Norris, and, having organized into a meeting, they may elect by ballot a special officer and a collector, to serve for one year ensuing, at a salary which may then be fixed; and shall elect an auditing committee of five members, whose duty it shall be to examine and audit the accounts and vouchers of the collector of the oyster-fund, and report upon them at each annual meeting. This meeting is also authorized, by the consent of two-thirds of those present and entitled to vote, to raise a tax of \$1 per ton per annum upon all boats of over five tons measurement, in addition to the tax heretofore imposed by this act; said additional tax to be imposed for one year only at a time, and not to be continued except by consent of two-thirds of the voters at a subsequent meeting.

SEC. 16. Whenever, at the end of a fiscal year, the oyster-fund, after expenses are paid, shall exceed \$2,000, the collector shall pay the same to the state treasurer, to be applied to the support of the schools of the state.

SEC. 17. Forbids catching oysters "in Maurice river cove, or on any planting-ground in Delaware bay", between sunset and sunrise, under penalty of \$50.

SEC. 18. Enacts that every boat or vessel lawfully catching or planting oysters in Delaware bay, to which a license is given (as heretofore), "shall wear in the middle of the mainsail, * * * a number painted in black, 18 inches long, and to be designated by the license".

SEC. 19. Superseded by act of 1880.

SEC. 20. Makes it lawful for any person who has been a resident of the state for six months to make a written application to the clerk of the court of common pleas of the county in this state, where the applicant resides, for a certificate setting forth that the applicant is a resident (as above), is not engaged in planting oysters or clams, but desires to rake shellfish within the waters of this state from the natural beds in Delaware bay, and designating the boat which he intends to make use of.

SEC. 21. The clerk aforesaid having satisfied himself of the truth of the applicant's statements, shall thereupon issue to him a certificate stating the facts as above.

SEC. 22. Upon presentation of this certificate to the oyster-fund collector of Cumberland county, it shall be the duty of that officer to issue to the applicant, without charge, except for fees, a license to gather clams, oysters, and shellfish upon the natural beds in Maurice river cove and Delaware bay, on board the boat named in the license.

SEC. 23. Stipulates small fees.

SEC. 24. Nothing herein shall affect the force of section 1 of the act of 1846.

THE OYSTERMEN'S ASSOCIATION: SPECIAL LICENSES.—Under this law an association of oystermen was formed and is still in existence. Each year the board of twelve directors, of whom Mr. Daniel Howell is president, fixes the rate of taxation upon the vessels in the association, which is deemed needful to cover the expenses of the

association. The chief outlay and main object of the association and fund, is the providing of a watch-boat and police crew, which shall watch the beds in the cove against thieves and arrest all boats that do not show, by a number in the middle of the mainsail, that they have a license. Last year (1879) from 227 boats licensed, about \$2,000 was collected by Mr. Benjamin Campbell, the collector at Port Norris. This year (1880) the fee is 50 cents per ton, custom-house measurement, and the total fees will amount to more than before, since 255 boats are already licensed.

The license given by the association reads as follows:

Special license, No. —.

By authority of the state of New Jersey:

_____ of _____ county, state of New Jersey, having paid the sum of _____ dollars, license is hereby granted to the said _____ to catch, plant, and grow oysters in Delaware bay and Maurice river cove, in the state of New Jersey, one year from date, in conformity with the provisions of an act of the legislature of New Jersey, entitled "An act for the better enforcement in Maurice river cove and Delaware bay of the act entitled 'An act for the preservation of clams and oysters', approved April fourteenth, eighteen hundred and forty-six, and the supplements thereto", which act was approved March twenty-first, eighteen hundred and seventy-one. This license is to be used by the said _____ as captain or commander of the _____ called the _____, of _____, state of New Jersey, of _____ tons burden, and numbered _____ in the middle of the mainsail.

Given under my hand and seal of office, at _____ this _____ day of _____ eighteen hundred and eighty _____.

_____. [L. S.]

Annexed to the counterpart of this license, which is filed in the office of the collector, is a printed oath, by which the captain swears that he will obey and help enforce the laws of the state for the protection of the oyster-fisheries, upon all occasions.

The obligations of living up to these regulations are avoided by many irresponsible boat-owners, who, rather than pay the assessment and enter the association, prefer to take their chances of arrest, and forfeit whatever advantages the association may have to offer. The watch-boat is therefore kept busy looking after home delinquents, rather than thieves from abroad. The captain of this watch-boat receives \$130 a month pay, and provides his own crew out of it. He carries three to five men, but in case of any emergency calls upon anybody at hand to render help, and he is bound to obey.

In the case of the oyster-boats controlled wholly at home, it is a general rule that the men go on shares. The vessel takes one-third of all receipts and the crew divide the rest, paying the captain's "grub bill" in addition. If each man makes \$500 a year by this arrangement, he does very well. The crews are made up of residents of the state, at least of residents of six months' standing. When a crew is hired, the wages are from \$20 to \$40 a month and board.

As usual, where the oyster-business has become of great dimensions and planting is carried on on a large scale, there are a number of persons who are, to a greater or less extent, deprived of real or imaginary benefits and privileges which they enjoyed under a more primitive condition of things. From the inclosed river and ponds, and also from the outside waters of the bay southward of Egg island, large numbers of large-sized and sweet oysters have always been taken and sent to market or peddled through the neighborhood. When planting-beds were so greatly increased in Maurice river cove, the shore people found that the diligent search for young oysters through the marshes, and the persistent dredging during three-fourths of the year, were sensibly diminishing the supply of marketable oysters attainable by the small open boats. Of these there are fifty or more owned along shore. They are too small to come under the association's tax; do not belong to planters, but are owned by men who live near the shore, and gain a large part of their livelihood by tonging and hand-dredging. These people, owing to misfortune or improvidence, are too poor to plant; but can do well if they are allowed to catch all the year round in the southern part of the bay, where all the oysters taken are of marketable size. For the protection of this class, therefore, against any possible rapacity of more fortunate and powerful neighbors, the legislature this year passed a law which gives general satisfaction. This makes it unlawful "to catch oysters from any of the natural beds in Delaware bay, north of a line bearing southwest from the mouth of Sow and Pigs creek, in the county of Cumberland, from the last day of June in each year to the first day of April in the succeeding year, and no oysters shall be caught south of said line for the purpose of planting at any season of the year; and any person offending against either of the provisions of this section shall be deemed guilty of a misdemeanor". Punishments are a fine of \$100, or imprisonment, with forfeiture of the craft and all its furniture.

OYSTERS AND OYSTERING AT MAURICE COVE.—A large part of the oysters sold from Maurice cove are of natural growth and do not become improved by transplanting. Many of them do not even require to be freshened on the "board-banks" before being taken to market. This is the case with those obtained off Egg island. These excellent wild oysters are dredged from all depths, six to eight fathoms of line being the ordinary amount used, however. Successful dredging has been done, however, in all parts of the southern half of Delaware bay, even in mid-channel, where the water is more than 500 feet deep. This deep dredging is unprofitable, however, and not practiced; but that oysters exist there has been shown by experiment, as I was positively assured by Daniel T. Howell, esq., of Mauricetown, who gave me many interesting notes upon this region.

While the dredging for natural oysters can only be done by the large boats properly fitted with improved windlasses and deep-water apparatus, large quantities of seed are furnished the planters from the creeks and

marshes, by men who pick them up or tong them, using small boats. This seed varies according to locality. In Dividing creek and southward it is very poor, with thin shells, and is used to be replanted in inclosed ponds. From the Maurice river and northward better seed is brought, and good, natural-growth oysters are tonged up and sold to wagoners, who peddle them through all the southwestern counties of the state at from 50 cents to \$1 a bushel. One man in Mauricetown, who worked alone and in an open boat, is said to have sold between five and six thousand dollars' worth of this stock in a single season, recently.

The limit of natural growth northward on the New Jersey shore of Delaware bay, is a little above Cohansey point. All along the shore from here to Cape May the growth is solid, but out in the middle they grow in isolated patches. All the northernmost beds are useful only as seed, and the protective law hitherto quoted was made in the interest of about 1,000 families, who find their support in oystering along shore. This estimate of the number of families supported is probably too low, and is derived from a pretty exact estimate of the number of men employed in the vessels, obtained by the following survey:

In planting on the Jersey shore of Delaware bay, or, in other words, in Maurice cove, it is entirely fair to estimate 300 boats engaged, since 255 are registered, and about fifty, under five tons, are regularly working unregistered, though all these do not plant, while there are several others of large size which defy or neglect registration. Most of these 300 boats are of good model and excellent build, as has already been hinted. Some exceed 40 tons in burden, and an average value of \$1,000, big and little, is not too high. This would give \$300,000 as the total worth of the fleet on the western shore.

Now in planting native seed in the spring, for no southern seed of consequence is put on the eastern shore, each of these 300 vessels will put down 20 deck loads of seed; at 400 bushels to the deck load, this sums up 24,000,000 as the amount planted, in 6,000 trips.

These planting operations, and the subsequent marketing of the crop, cause the employment in these 300 vessels as crews, during ten months every year, of no less than 1,500 men, at five to each craft. All these are required by law to be citizens of New Jersey. They receive an average of \$25 a month and board as wages; and since it is impossible to separate those who work on shares, from those who accept a salary—something which is incessantly changing—it is safe to calculate as though all were hired. Fifteen hundred men at \$25 a month, for ten months, gives the sum of \$375,000 annually expended as wages by the owners of the Maurice cove beds. In addition to this the board of the crews, at the rate of about \$40 a month in each vessel, aggregates \$120,000. The cost of repairs upon a vessel engaged in such a work as these are, and of their size, will be stated low at \$300 a year for the first five or ten years; I believe it to be more. At that rate \$90,000 a year, in cash, is paid out for "running expenses".

If you should ask one of these planters how his crop compares with the amount of seed he put down, probably you would be told he could not tell. From much study of the matter, I believe the following statement to represent nearly the truth:

To bring the oysters raised on the Jersey shore of Delaware bay to market, each one of those 300 boats makes ten trips a season, and on each trip brings 500 bushels. This is an average estimate, but it is so far below the line of safety, in my opinion, that to the total I propose to add 17,000 bushels, in order to get a "round" figure. Multiplying 3,000 trips (300 boats by 10) into 500 bushels a trip, gives 1,500,000 bushels as the total of oysters that are sent to the Philadelphia market by water from Maurice cove. By rail, as I have said, came 83,000 in 1879; but in 1880 this was reported increased, and to it may be safely added 17,000, making an even 100,000, or 1,600,000 bushels as the total product.

Now what is this worth? I have used, heretofore, in general calculations, a dollar as representing a bushel. It will hold from the Delaware capes to Boston. See how near an actual calculation brings it here. All the west Jersey oysters that go to market are either "primes" (first quality) or "cullens" (second), and in the ratio of one of the former to two of the latter. The ordinary price for cullens has been 80 cents, and of primes \$1 50; adding and dividing gives \$1,033 as the average value. This, remember, is the amount paid to the planters, and, consequently, distributed to a great extent at home in New Jersey, but not wholly, for a large part of the ownership of the oysters is held in Philadelphia. Summarizing the foregoing produces the following tabulation:

Number of vessels	300
Value of same	\$300,000
Number of boats	800
Number of men employed	1,600
Wages (\$375,000) and board (\$120,000)	\$495,000
Amount of seed planted	2,400,000 bushels..
Amount of crop raised	1,600,000 bushels..
Value of same	\$1,600,000
Amount of ground necessary	6,000 acres..
Probable actual value	\$50,000

WESTERN SHORE OF DELAWARE BAY.—Let us now cross over to the western shore of Delaware bay, which is equally suitable with the eastern, and has long been employed in planting oysters. The business now is on the increase, but it is chiefly in the hands of Philadelphia firms.

The natural beds of oysters—"rock-oysters" is the local term—are confined practically to the shore between the mouth of Mahon river and Bombay hook. Though formerly far more productive, probably, than now, it is from an area of little, if any, greater width than Philadelphia, and the states of Pennsylvania and Delaware generally, have always obtained their oysters. Not forgetting this great food-resource, in advertising the advantages of his colony, the astute William Penn wrote, in 1683:

Of fhell-fifh, we have oyfters, crabs, coccles, conchs, and mufcles; fome oyfters fix inches long, and one fort of coccles as big as the ftewing oyfters. They make a rich broth.

In Smith's *History of New Jersey* is quoted a manuscript from the *British Museum*, and written in 1669, which notes:

Two leagues from Cape Cornelius, on the west side of the river [the Delaware], near its mouth, there is a certain creek called the Heeren Kill. * * * There are two small islands in it, the first very small, the last about half a league in circumference. * * * The two islands are surrounded with a muddy ground, in which there grows the best sort of oysters, which said ground begins near the first island, for the mouth of the channel has a sandy bottom, being also very deep, and therefore there are no oysters there.

The locality of this is evidently Lewes-Town, at the mouth of the bay. Somewhat later, under date of October 8, 1745, Kalm records that "the shore of Pennsylvania has a great quantity of the finest oysters. * * * They come from that part of the shore which is near the mouth of the river Delaware". Three years later Kalm writes:

Aged people * * * complained here [Philadelphia] and everywhere of the decrease of fifh. Old people asserted the fame in regard to oyfters at *New York*; for though they are still taken in considerable quantity, and are as big and as delicious as can be wished, yet all the oyfter-catchers own that the number diminishes greatly every year; the most natural cause of it is probably the immoderate catching of them at all times of the year.

Only portions of this bottom, which extend over about 16 miles, are now productive when dredged, however, and Capt. D. C. Montgomery, whose experience is very large, considers that 500 acres would probably cover the total area of "oyster-rock" in the whole distance. These beds are not now as productive as formerly, and are not spreading to any extent. This is considered due to the excessive working of them in both spring and fall, combined with absence of any dredging in early summer. They are thus allowed to become covered with drifted matter, and coated with slime for several weeks prior to the spawning season (July), and are thus in no condition to catch and save the floating young. As a consequence the greater part of the northern-born seed used is imported from outside waters. South of a line drawn eastward from Mahon river the law (of 1871) recognizes no natural beds, "except such as may not be more than three feet below the surface at an ordinary low water".

DELAWARE OYSTER-LAWS.—The laws regulating oyster and clam catching and cultivation on this Delaware shore are voluminous, and I quote them with particular care, as annexed:

STATE OF DELAWARE—DIGEST OF 1873—CHAP. 55.

SECTION 1. Forbids any person not a citizen of the state to take oysters or clams or terrapins in the waters of the bay without having a license, which license shall be granted at a cost of \$50 by a county clerk of the peace, and shall be good for one year for the boat named. Violation of this section shall be a misdemeanor, fined \$50, and the boat and tackle shall be detained for trial before any justice of the peace. Powers are given to sheriffs to seize, and penalties for resistance of process are decreed at length.

SEC. 2. Makes it unlawful for any person not a citizen of the state to take oysters, clams, or terrapins from any "river, creek, or pond within this state, and put them on board of any boat or vessel not wholly belonging to and owned by citizens of this state". Penalties for violation as in section 1.

SEC. 3. All oysters caught in any such river, creek, or pond (except Misspillion or Murderkill creeks), shall be culled at the place where they are caught; and the young and refuse oysters there deposited.

SEC. 4. Forbids taking away from any river, creek, or pond (except Delaware and Indian river), more than 20 bushels of oysters or clams at one time; and no vessel in any waters of this state shall be loaded from any vessels authorized by this section to carry 20 bushels or less.

SEC. 5. It shall be unlawful for any person to take oysters from any river, creek, or pond in this state, between April 30 and September 1, or at any time to be planted anywhere else in or out of the state, or to use a dredge there. Violation incurs fines and confiscation of vehicle and oysters obtained.

SEC. 6. Prohibits selling more than five bushels of oysters from Misspillion creek to be taken out of the state.

SEC. 7. Any citizen of the state may appropriate to his own use not exceeding an acre of bottom for planting oysters, and, having marked the same by stakes or other visible boundaries, and planted oysters therein, it shall be unlawful for any other person to take oysters therein growing, under penalty of forfeiting \$50 to the owner of such plantation. But no place shall be so appropriated where oysters are growing, or so as to impede navigation; nor shall more than 40 feet square of Lewes creek be appropriated by any person.

SEC. 8. Forbids laying out or bedding oysters on the flats, shore, or bank of any stream.

SEC. 9. Protects terrapin eggs.

CHAP. 551.

SECTION 1. Every person or company engaged in the business of opening oysters in this state for exportation, amounting to more than \$500, shall take out a license.

SEC. 2. This license shall be granted by a clerk of the peace for \$30, good for one year.

SECS. 3 to 7. Instructions to officers, etc.

LAWS OF 1871—CHAP. 9.

SECTION 1. All oyster-plantations, not exceeding 15 acres, heretofore made in Delaware bay, shall be deemed the possession of the respective planters of them, and the oysters thereon shall be their private property, on condition that rent shall be paid as hereinafter provided, beginning May 1, 1871.

SEC. 2. Any person may appropriate not exceeding 15 acres of the free bottom of Delaware bay, south of Reedy island and west of Blake's channel, for planting oysters, which shall be properly designated by stakes. This ground, and the oysters planted thereon, shall be private property. "But before any one shall avail himself of this privilege he shall apply, in writing, to the said collector for a license for that purpose, and pay to said collector the sum of \$25 as the fee and price therefor, and also the sum of \$3 per ton (custom-house measurement) for the vessel to be employed in the business of planting. The said license shall last only for one year. * * * The privilege granted by this, and the first section, shall not embrace any portion of the bottom which is a natural oyster-bed, and has been hitherto used and worked as such, nor shall it be extended beyond the mere right to plant oysters and hold them as property."

SEC. 3. No person not a resident of the state, or a regularly licensed planter, shall dredge or otherwise take oysters from any public oyster-bed of this state; penalty, \$100 for each day's offense and forfeiture of all boats and tackle. "The fee for license to dredge the public beds shall be \$3 per ton (custom-house measurement), * * * but such license shall not be taken to authorize the planting of oysters."

SEC. 4. "The different plantations shall be treated as numbered in the order in which the licenses to plant are issued under this act, and the boat or vessel used * * * shall wear that number painted in black, at least 18 inches long, in the middle of her mainsail." And also "shall wear, in the middle of her mainsail, a Roman letter painted in black, 18 inches long, to be designated in the license".

SEC. 5. For the purpose of protecting the oyster-beds in the bay, and those who plant oysters under this act, the collector of license-fees is instructed to purchase or hire out of the money collected a suitable "watch-boat", manned by a captain and two men. She shall be employed night and day from March 1 to September 1, or longer, and may call upon any other boat's crew to help her as a *posse comitatus*, in the enforcement of this act against trespassers. The proceedings to be taken subsequent to arrest and upon conviction, with disposal of fines, are fully stated.

SECS. 6, 7, 8. Instructions to captain of watch-boat as to powers and duties, and statement of form of proceedings against offenders, and penalties for those who resist the police.

SEC. 9. Forbids *any one* dredging in July or August, or on Sunday, or between sunset and sunrise.

SEC. 10. Taking of oysters from another's plantations is designated to be larceny, and punished accordingly.

SEC. 11. Forbids depositing oysters in any streams in this state and taking them up in July or August, except with tongs.

SEC. 12. An oath is required of every person taking out a license, that he will not violate or allow his vessel to be used in violation of this act.

SEC. 13. A license applies to only one vessel, whose name must be stated therein.

SEC. 14. The governor shall furnish suitable licenses in blank to the collector.

SEC. 15. The collector shall be appointed by the governor of the state; he shall take oath of office and give penal surety.

SEC. 16. The duty of the collector shall be to enforce this act; when so engaged the watch-boat shall be under his orders, and he is clothed with all needful powers.

SEC. 17. Creates a new justice of the peace at Little Creek Landing, Kent county, specially to administer this law.

SEC. 18. Compensation of collector fixed at 5 per cent. of moneys collected, not to exceed \$1,000; of captain of watch-boat, \$80 per month; and of crew, \$40 per month each, they finding their own board, to be paid out of funds collected.

SEC. 19. Moneys collected to be for the use of the state, except what is needed for expenses under the act.

SEC. 20. Publication of the act.

SEC. 21. In case of the use of a boat of only two tons burden, the license shall cost only \$25.

LAWS OF 1875.

SECTION 1. Instructs all oyster-boats acting under Delaware laws not only to cease their occupation, but to be taken "within the land" at or before sunset, and the captain of the watch-boat must enforce this. A signal for retiring shall be given from the watch-boat; and when that is shown there shall be an end, until sunrise next day (not Sunday), of all work upon the oyster-plantations or upon the public beds. Such signal shall be the lowering of the watch-boat's flag. This flag shall be of navy-blue bunting, six feet by four in length, with a diamond of white in the center, having a diameter of two feet between the points farthest apart. She shall always wear it at her maintopmast head during the working hours, and she shall never leave the planting-grounds, but shall cruise up and down the same, if the wind will allow, except when she is compelled, by floating ice, severe stress of weather, accident, or want of repairs or supplies, from remaining in the bay, it being the design of passing this act, as it was of passing prior acts, that honest parties who plant oysters under the shield of the state authority, shall be protected in the rights which were intended or are hereby meant to be secured to them; and that offenders against such authority shall be brought to condign punishment.

SECS. 2, 3. Prescribes as penalties for violation of section 1, annulment of license, forfeiture of boat and equipment, and refusal of license for two years succeeding the offense. The exact method of procedure before the court, in executing trial and penalties, is set forth at length.

SEC. 4. Where a plantation license has been issued and a plantation appropriated, and the fee for any year is in arrear, no right to dredge or dispose of said plantation shall exist until all the back fees are paid up, and no sale or disposal of an oyster-plantation, or right to dredge it, or plant upon it, shall be valid until first approved by the collector, who shall not give his approval if, in his judgment, it will be prejudicial to the interests of the state, or of planters whose plantations lie in the neighborhood.

SEC. 5. No boat whatever shall be allowed to work, until her owner has complied with the law in regard to wearing her number, of legal dimensions, upon her mainsail; and if she attempt to do so she shall be seized by the collector or captain of the watch-boat, and held until her number is painted upon her sail.

SEC. 6. It shall be the duty of the person for the time being in charge of the watch-boat, to report at once to the collector all violations * * *, and a failure to do so shall be a forfeiture of any wages that may be due him; and further, he shall not be allowed any longer to have charge of the watch-boat, and his place therein shall be vacant * * *. The possession or having the care and management of any oyster-boat shall, for the purposes of this act, be deemed and taken to be conclusive proof of ownership * * *, and all persons on board of her at the time of such violation, shall be deemed and taken to be principal offenders, and be dealt with accordingly.

SEC. 7. It shall be the duty of the collector and the captain of the watch-boat to see that the name of any boat employed in planting or dredging for oysters, is plainly painted on her stern, and failure to do this, or a concealment of the name, shall be punished by annulment of license and a refusal of license ever after.

SEC. 8. It shall be the further duty of the collector and captain to ascertain, at least once every month, and keep a record thereof, the name of the owner of every boat employed in the oyster-business, and those on board of her shall give it to him, and the name given shall be taken to be the true name of such owner, who shall be held * * * an accessory before the fact to any violation * * * of this or the aforesaid acts, and liable accordingly. In case refusal be made to furnish the name of the owner, or there should be reason to believe that the true name is not given, it shall be the duty of those officers, respectively, to immediately take the boat itself into his

custody, and detain her until the proper and right name be furnished; and to that end he shall have power to call upon and require, as he may in every other case of necessity, the sheriff of the county to aid him, which sheriff may employ any force or means whatever for that purpose.

SECS. 9 and 10. No license to plant oysters shall be granted, until the applicant shall furnish the collector with a statement of the boat or boats to be employed by him in the business, giving separate name and tonnage, and the name of the owner and the persons who are to work her.

SEC. 11. The state treasurer shall require from the collector * * * information, on the first day of June and September, of each year, of the names and residences of all persons having license to plant oysters or dredge for them, and the names of the boats used in the business.

SEC. 12. When the captain of the watch-boat has knowledge of a violation of any of the provisions of this, or the other acts with which this is connected, he shall proceed immediately to seize the boat or boats employed in such violation, and hold her or them in his custody, until the collector has proceeded to enforce the provisions of this and the other of said acts.

SEC. 13. Neither the captain of the watch-boat, nor any of her crew, shall receive any pay for time not actually and actively spent in the discharge of the duties required by this act, and the act to which this is a supplement, but such time shall be deducted in the computation of their wages.

SEC. 14. The captain and crew of the watch-boat shall be practical seamen, and part of their duty shall be to keep the boat, her apparel, tackle, and furniture, in good repair and condition, and this without extra charge; and no repairs involving extra expense, shall be made without the concurrence of both the collector and captain, and then only such as are authorized by law.

SEC. 15. The collector shall issue no license, nor permit any boat to dredge, until the price or fee for said license has been actually paid, and the collector violating this provision shall not only be responsible for said license fee, but shall, in addition thereto, forfeit a like sum to the state.

SEC. 16. The collector shall keep a true, accurate list of all licenses issued by him, giving the name of every boat and captain thereof, respectively, with the amount paid for each license, which list he shall publish in at least one newspaper in Dover, the first week in April and October each year.

SEC. 17. The collector shall keep a separate account, in the Farmers' bank at Dover, of all moneys received by him for license issued, and shall deposit weekly all moneys received by him therefor; and all disbursements which he is, or may be, authorized by law to make, shall be by checks drawn on said fund in his official capacity.

SEC. 18. When the boundary stakes required by the act to which this is a supplement, have once been set, it shall be neither a defense nor excuse for any person prosecuted for a violation of any of the provisions of this act, or the act to which this is a supplement, that they were not standing or visible at the time the alleged offense was committed; but if the person accused be proved to have taken oysters anywhere but on his own ground, he may be properly convicted.

SEC. 19. Repeals section 6 of chapter 363, laws of 1873.

SEC. 20. The sum of \$300 is to be set apart annually, from the oyster-fund of Kent county, to the improvement of certain roads along the shore. "And in order to facilitate such improvement, it shall be the duty of all oystermen to land and deposit their oyster-shells on shore, at some convenient place to said road, so that they may be used in said repairs, and it shall be unlawful to empty or throw such shells into the water, unless the distance from the place shall be so great as to make it unreasonable to land and deposit them as aforesaid, of which unreasonableness the collector and road-overseer shall concurrently be the judges."

SEC. 21. The foregoing act to be printed and distributed to owners of boats.

Under the operation of these laws there were registered, in 1879, 62 boats. The proceeds of their license-fees amounted to \$5,324. The statistics for 1880 were not available in time for this writing, but will not greatly differ from those of the previous year. Many of the boats take out a dredging-license only, and do not pay the extra \$25 which entitles them to plant. Out of the whole 62 boats, only six or eight belong at Little Creek Landing, the headquarters of the native oyster-business, and probably there are not more than a dozen sail-boats, employing 50 citizens, in all Delaware, owned and engaged in the shellfisheries, the remainder belonging at Philadelphia and elsewhere. To a great extent, therefore, this trade is operated out of the same capital, by the same men, and contributes to the same total means of support, as the West Jersey planting.

OYSTER-PLANTING: WEST SHORE OF DELAWARE BAY.—The western shore of Delaware bay is the great scene of planting the southern oysters, which are brought annually from the Chesapeake and intended for the Philadelphia market; but, for the present, I will pass by this, and confine myself to an account of the less important business of raising northern oysters from native seed.

As no work is done during summer, the oysterman's year of labor begins on the 1st of September. It is in the fall that he procures nearly all the native seed that he proposes to plant, and his time is very fully occupied at that season. Though continual dredging is pursued on the home-beds where natural oysters grow, by no means sufficient seed is gathered there to supply the demand along this shore. I was informed that the inshore creek beds along the coast of the state furnished last year about 40,000 bushels of seed, which would count 800 to the bushel. The off-shore beds, in the deeper waters of the bay, but within state limits, yielded about 170,000. In addition to this, there were planted about 160,000 bushels of seed that grew on the New Jersey side of the bay, the procuring of which, and sale by the Jerseymen, was an evasion of the New Jersey law, and was managed in this way: The New Jersey law prohibits taking any seed from her beds to be planted outside of the state. The Jerseymen, therefore, get a cargo of small oysters or half-culled dredgings, and take it to the general market in Philadelphia. If a buyer takes their cargo at a satisfactory price, it is regarded as no part of their business to inquire what he proposes to do with it; nor can there be urged any valid technical objection to this proceeding, since the law does not define what kind or size or condition of oysters shall be sold; or that oysters sold in open market shall not be replanted by the buyer, if he chooses, outside the state. So long as he is not a resident of New Jersey, the law can of course exercise no control over his actions in such a matter. This evasion, and its method, are perfectly well understood by everybody concerned, and if there is a way to put a stop to it—the extreme desirability of which

does not appear—no one exerts himself to do so. Another method in vogue, is, for the regularly licensed boat and crew of some man, who wishes to plant on the Delaware shore, to run out with the day's dredgings and, under cover of night, transfer the deck-load to some old schooner chartered in the Chesapeake or elsewhere out of this region, for the purpose. The ostensible purpose, if discovered, is merely the trade in these oysters, but really she runs across to the western shore, and has thrown over her load before daylight, and returns the next night for a second venture in blockade-running. The courts and the sentinels are very vigilant and strict, however, and every now and then some of the Philadelphia men or some of the Jerseymen themselves are arrested and fined. It is a widespread opinion, however, that some of the provisions of the New Jersey law are unconstitutional, being violations of inter-state comity, and an attempt at jurisdiction beyond the state's limits of power. The plea in defense is, that when New Jersey entered the Union she relinquished none of the old colonial rights reserved to her under the king's charter. It is not my intention to discuss this matter, which remains to be decided some day by the Supreme Court of the United States.

The Delaware, or "western shore" planting-grounds, lie chiefly opposite the central part of the state, the villages of Little Creek Landing and Mahon's Ditch, close to Dover, being the homes of most of the oystermen. There is some desultory catching in Indian river at the southern extremity of the state, but of little consequence. The beds are chiefly so near shore as to be in less than 10 feet depth of water, though some are as deep as 15 feet at low tide. Various sorts of bottom occur, but stiff mud is preferred. In the course of a dozen years' planting on such a spot, the mud, by accumulation of shells and refuse, is converted into a solid surface. It thus is made suitable for the deposit of spawn and the growth of young oysters, which, proceeding continuously, replaces the formerly barren bottom with a genuine natural bed or "oyster-rock". The title to the plot is not disputed, however, as it would be in some districts, because of this change, and the ground becomes extremely valuable, since it forms a natural nursery for the farm.

It is the custom to allow all northern seed to lie over two winters before sending to market. There are occasional exceptions, but to dispose of a native bed at the end of a single year's growth is generally condemned, and with wisdom. Under this arrangement, however, a large part of the plantation must lie idle every alternate year; and in view of this, many of the Delaware men complain that the limit of 15 acres, defined by the state-law as the size of a single farm, is too small. It may be, considering the fact that, as I was assured, *all* the farms are cultivated at present up to their full capacity. The growth of the business may now properly call for an enlargement of the privileged holdings.

TAKING UP OYSTERS: SEASON AND METHODS.—The season for taking the crop opens in September, and produces from Delaware waters from five to ten thousand bushels annually of natural growth, large sized, marketable oysters, but these are not always kept separate in shipment from the planted stock. In taking up the planted beds of northern oysters, it is calculated that they shall yield, at the least, an equal measure to the amount of seed put down. By count, however, there will not be more than half as many, showing that 50 per cent. of the blisters perish. The profit, then, is almost wholly on the growth; but as, after from eighteen months to two years' waiting, the stock which cost, put down, say 25 cents, sells, bushel for bushel, at from 75 cents to \$1 25, the return is a very fair one. It is not always, however, that as much (by measure) comes up as goes down, and I have estimated my total accordingly, at a deduction.

In the process of taking up a bed of oysters, here, each dredgeful is culled immediately on board, and all the "trash", that is, undersized oysters, shells, and refuse is saved, and at the end of the dredging is taken to the "idle-ground", where a field of seed is growing, and emptied upon it. Much of this trash is alive and will mature. When, six months (or perhaps not until eighteen months) later, this idle-ground is overhauled and culled out for market, it will be found to have been considerably reinforced by the "trash". A second good effect of this system is, that it thoroughly scrapes clean the ground from which the season's salable crop is gathered—an advantage not to be lightly estimated.

The season ends about May 1, when the sloops cease taking any more cargoes to market, for lack of stock to carry. It is needless to say that nothing but occasional lots, by express, goes from this coast to Philadelphia by rail.

In accordance with the law, a watch-boat, in the shape of a fast schooner, once a pleasure yacht, and hence comfortably fitted up, patrols the beds every day and at night, whenever any danger is expected, but ordinarily comes into dock at Mahon's ditch each evening.

A résumé of the facts given above, in regard to the planting of native oysters on the shores of the state of Delaware, is as follows:

- Location of beds off Little Creek landing.
- Source of seed, both shores of Delaware bay.
- Market, Philadelphia.
- Price, 80 cents to \$1 50 per bushel.
- Number of vessels (partially) engaged, 65.
- Number of bushels "natural growth" sold, 5,000.
- Number of bushels "northern plants", about 300,000.

ENEMIES AND DISASTERS.—The only enemy of consequence on these beds, seems to be the small boring-snails, chiefly *Urosalpinx*, to which I have already frequently referred. The overhauling of the whole farm once every two or three years ought to give ample opportunity to keep this pest well in check, if sufficient care is taken to pick out the borers of every kind and carry them ashore. Incessant attention to this, for a few years, by all the planters, would practically extirpate an enemy which is likely at any time to become extremely destructive.

Starfishes are unknown here, and conchs not regarded as anything to be specially apprehended. There are several fishes, however, allied to the weakfish and the drumfish, which at intervals make a raid on the beds and do much havoc. Occasional gales from the southeast also drift the mud injuriously.

A strange manifestation in September, on these beds, is the abundance of what is known to the fishermen as "sea-grapes", and which seems to be the clustered egg-cases of some one or more species of squid. For a few days, at the beginning of the season, these clusters of eggs so cram the dredges as to interfere with and delay the work. Moreover, a hard storm, or even the disturbance made by the movement of the dredge, causes them to rise to the surface, so buoyant are they, and to float away, carrying with them the oysters to which they were attached. Considerable loss is thus occasioned at times. Otherwise they do no harm to the mollusks, so far as I know.

This shore is exposed to a long sweep of the winds and is wholly unsheltered. Gales, formidable enough to stir up the deep water in which the oysters are laid, are therefore liable to work great mischief. This is most likely to occur in the autumn. For example, in the latter part of October, 1878, a great storm destroyed many thousands of bushels by drifting them off the beds, or burying them under a bank of sand or sheet of mud. So violent was this gale, that 27 oyster-vessels went ashore at Mahon's ditch alone, and several of them were set high and dry upon the marshes. Most of these could be relaunched by making a canal from their involuntary dry-dock; but one or two never could be got back to the water without more expense than they were worth, and were therefore dismantled and left to decay.

PLANTING SOUTHERN OYSTERS IN DELAWARE BAY.—There remains now to be considered the great business of transplanting and maturing southern oysters in the waters off this shore. Though this stock is chiefly owned in Philadelphia and operated by Pennsylvanians, yet its consideration belongs properly here, since the beds are wholly in Delaware's waters.

The statistics I give in respect to this, were furnished me chiefly by Mr. J. C. Cleaver, collector of the Chesapeake and Delaware Canal Company at Chesapeake City, Maryland, and refer to the last half of 1879 and the first months of 1880, completing an "oyster-season".

All the southern oysters which are brought to Delaware bay or to Philadelphia, both for planting and for immediate consumption, come through this canal, which leads from the Chesapeake. There may possibly be half a dozen outside trips made (all from Chincoteague island), in the course of the year, but this is a small exception.

The vessels, as a rule, engaged in this traffic are "wood-droggers", schooners of light draught, and able to carry from 500 to 1,500 bushels. During the planting season they will average about 1,300 bushels per load, but when running direct to market, in winter, carry only 900 bushels, the difference arising largely from an absence of any deck-load in the latter case. The number of schooners thus used varies from year to year; but the number of trips during the season reported upon by Mr. Cleaver, was 868. At \$100 a trip, charter-pay, these schooners earned that year, therefore, \$86,800. Sometimes an even \$100 is given to make the trip, and sometimes a rate of about \$10 a day is paid, but it amounts substantially to the same thing. In addition, the charterer pays the canal expenses, consisting of entrance-toll, towage, and dues of 85 cents a ton on cargo, amounting in all to about \$50. The canal thus receives an annual revenue from this source of about \$4,340.

The schooners range in value from \$1,000 to \$6,000. The owners pay the captain of such a schooner, who must know all the little creeks and oyster-buying nooks along the whole Chesapeake coast, and be a capable man at a bargain for his employers, about \$50 per month. The men in the crews get \$25. The provisions supplied by the owners are said to be abundant and of good quality.

Among this fleet are about twenty-five "role captains", who own their vessels entirely, hire their own crew, get cargoes from the south with their own money, and plant on beds claimed and prepared by themselves. Attending to their plantations personally, they bring their cargoes to the market in the fall in their own schooners or sloops, and leave them to be sold there on commission. They are thus both planters and carriers.

During the fall and winter months most, if not all, of the vessels go directly to the Philadelphia market, and their cargoes enter into the immediate consumption of the city. Sales are made from the hull of the schooner, without unloading into a warehouse. The number of trips made for this direct market consumption, makes only about one-fourth of the total recorded as passing through the canal. Three-fourths of the oysters brought out of the Chesapeake are intended to be planted, and find their destination in the beds along the western shore of the bay. The large dimensions of these receipts appear in the succeeding table from the Canal Company's books:

THE OYSTER-INDUSTRY.

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RECORD OF OYSTERS IN SHELL WHICH PASSED THROUGH THE CHESAPEAKE CANAL IN 1879-'80.

During months—	From Virginia waters.	From Maryland waters.	Total.	Number of oyster-vessels.
1879.				
May	31,680	126,720	158,400	176
June	7,740	30,960	38,700	43
July				None.
August				None.
September	1,080	4,320	5,400	6
October	3,780	15,120	18,900	21
November	10,260	41,040	51,300	57
December	10,800	43,200	54,000	60
1880.				
January	8,280	33,120	41,400	46
February	11,340	45,360	56,700	63
March	36,400	145,600	182,000	140
April	166,400	166,400	332,800	256
	287,760	651,840	939,600	868
From—			For planting.	For Philadelphia and other markets.
Maryland waters			488,880	162,960.
Virginia waters			215,820	71,940

The planting of this 700,000 and more bushels of Chesapeake seed, is not attended with any features greatly different from the same industry and investment at Fairhaven or Staten Island. When a load of oysters for planting arrives from the South, the owner of the cargo sends on board the vessel all the men he has, and the schooner then sails back and forth around and over the designated ground. The effort in loading is to have as much as possible of the cargo on deck. It is an easy matter, then, as the vessel proceeds, to shovel overboard; and as she is constantly changing her position, and the men shovel uninterruptedly until the whole load is overboard, the oysters are pretty evenly distributed. An ordinary crew of five will thus unload 400 bushels in an hour, for five or six hours in succession. Adding this expense to his first cost and charges, a planter, who puts down large quantities, expects the cost of his various lots of oysters, big and little together, will average about 25 cents a bushel.

These Chesapeake oysters, it is scarcely necessary to say, are left down only until the succeeding fall, before being taken up for market. They have then grown into larger and fuller proportions, and have assumed a far better flavor than they originally possessed. Sometimes accident or circumstances will cause a bed, or a portion of it, to be saved through the winter and not harvested until the second fall; but this is rare, very risky, and not attended by a large increase of profits. Making a recapitulation of the western shore produce, I derive the succeeding particulars:

STATISTICAL RECAPITULATION FOR WESTERN SHORE OF DELAWARE BAY:

Extent of natural "oyster-rock"	acres..	500
Extent of cultivated ground, about	acres..	3,000
Number of planters, not counted elsewhere		40
Number of men employed, about		625
Earnings and board		\$117,000
Number of men partially employed		400
Earnings of same		\$30,000
Number of trips made after southern seed, about		620
Freight earned by same		\$62,000
Canal charges on same		\$31,000
Southern seed planted	bushels..	704,700
Cost of same, about		\$176,175
Northern seed planted	bushels..	370,000
Cost of same, about		\$150,000
Southern oysters sold annually	bushels..	650,000
Value of same		\$500,000
Northern oysters sold annually	bushels..	300,000
Value of same		\$325,000

TOTAL STATISTICAL RECAPITULATION FOR DELAWARE BAY:

Number of planters, wholesale dealers, and shippers		350
Extent of ground cultivated	acres..	9,000
Value of same, about		\$15,000
Value of shore-property		\$123,500
Number of vessels and sail-boats permanently engaged		1,365
Value of same		\$350,000

Number of vessels partially engaged.....	100
Number of men hired by planters or dealers	1,915
Annual earnings of same.....	\$614,000
Number of sailors employed on Chesapeake vessels.....	400
Annual earnings of same.....	\$30,000
Total number of families supported, about.....	2,000
Annual sales of—	
I. Native oysters.....bushels..	1,900,000
Value of same	\$1,925,000
II. Chesapeake "plants".....bushels..	650,000
Value of same.....	\$500,000
Total value of oysters sold annually.....	\$2,425,000

N. OYSTER-INTERESTS OF PHILADELPHIA.

44. THE MERCHANTS AND OYSTER-BUSINESS OF PHILADELPHIA.

PHILADELPHIA AS AN OYSTER-CENTER.—It will already have impressed itself upon the mind of the reader, that this whole region is dependent upon Philadelphia for its market, and hence, for a large part of the capital employed in carrying on the daily operations of the business. The city of Philadelphia, therefore, takes a prominent position as an oyster-center, and deserves a careful survey. Yet here, more even than in New York, is the business centered and compact; or else it acts simply as a silent partner—a power behind the throne—in so many operations that have already been described in the review of Delaware bay, that little remains to be said except barren statistics condensed into small space.

The region directly tributary to Philadelphia as a marketing point, extends from Barnegat around to and including the whole of Delaware bay; and it yields two millions and a half bushels annually, one quarter of which, probably, are transplanted from the Chesapeake seed-grounds.

TRANSPORTATION AND ITS STATISTICS.—The transportation to the city from New York and the Atlantic coast of New Jersey is by rail, as also to some extent from the Delaware bay shore of the same state. This supply is carried almost wholly by three railways, the various sub-lines of the Pennsylvania corporation, the New Jersey Central, and the Philadelphia and Atlantic City narrow-guage road. Railway statistics, in all cases, were given me without hesitation by officers of the roads. The combined receipts reported by these roads for 1879-'80, from New York and New Jersey, amounts to nearly 300,000 bushels, counting somewhere near 70,000,000 oysters. These cargoes weighed over 12,000,000 pounds, and gave an income to the roads aggregating over \$27,000. By steamers from Baltimore, Norfolk, and Chesapeake landings, there were brought nearly 20,000 bushels, or perhaps 6,000,000 oysters, while the Philadelphia, Wilmington and Baltimore railway eclipsed all other lines, by reporting receipts for Philadelphia (including Southwark and Gray's Ferry) of 182,980 bushels in shell, and 70,000 gallons of shucked oysters. For these figures I am indebted to Mr. Charles K. Ide, master of transportation. Adding these two sums, on the basis that a gallon is equal to a bushel, and that each will contain (of such stock as this road transports) an average of 300 oysters, we find that 71,000,000 oysters is the number annually brought to the city, by this line alone, every year. The net revenue derived from this freight in 1879-'80, by this road, approached \$30,000, while as much more accrued to its treasury from other carriage of oysters not coming within the scope of the present inquiry.

Coming by sail-vessel from the eastern shore of Delaware bay, I find about one and a half million bushels yearly, while the western shore of the bay produces nearly another million bushels, a large part of which are southern oysters transplanted to those beds. Lastly, in winter, about 250,000 bushels are taken by sailing-vessels through the canal from the Chesapeake to Philadelphia, for immediate use. A summation of the supplies from all these sources gives as the total quantity annually handled in Philadelphia, as shown by the statistics of 1879 and 1880, to be in the close neighborhood of 2,680,000 bushels, or more than 800,000,000 oysters, worth, in round numbers, not less than \$2,500,000 at wholesale.

DISTRIBUTING TRADE.—But, of course, only a portion of these oysters are consumed within the limits of the city of Philadelphia. A large part is distributed widely throughout a region which includes the Delaware valley, the state of Pennsylvania, and to some extent the West, where Philadelphia competes in the shell-trade with New York and Baltimore. The Pennsylvania railway, for instance, reports that nearly 60,000 bushels went to Pittsburgh and intermediate stations, in 1879. Pittsburgh becomes, thus, a distributing point for its neighborhood, augmenting this stock by large receipts from Baltimore and New York. Philadelphia sends to New York and intermediate points, by the same railway, more than 100,000 bushels, and Camden distributes ten or fifteen thousand bushels in western New Jersey. There remains the draught made by the express companies and various railroads, from whom there is no report. To have ascertained, with complete exactness, the proportion of this two and a half millions of bushels which is sent out again, and consequently the proportion which is left to be consumed here, would have required weeks of time and needless trouble. But from all that I can gather in the way of data, I believe that the city of Philadelphia and its large suburbs, which together contain 1,000,000 people, will consume annually an equal

number of bushels or gallons, counting 300,000,000 oysters. This would require each inhabitant to eat about six per week the year round, or a dozen per week for half the year. A single "stew" would include this number; and for the few who would not find upon their tables one mess of stewed or otherwise cooked oysters in a week, I believe there are many who would see them in some shape every other day for six or eight months, especially among the working classes.

EFFORTS AT PACKING: SHUCKING: SHIPPING.—It has been found that the extraordinary advantage which Baltimore enjoys in that direction, has made it useless for Philadelphia to attempt to compete in the packing-trade. The few attempts that have been made have all met with ill-success. Some fresh oysters are canned here, however, and sent out, chiefly to near neighborhoods. There is not enough of this done, however, to furnish employment to more than 50 shuckers among the whole shipping-trade of the city. These are mostly whites, and perhaps half of them are married. They come from the most ignorant laborers, and are reckless in behavior. Some are hired by the week at \$10, others prefer to work by the piece, and receive 60 cents a thousand.

The fresh oysters shipped are sent mainly in wooden "buckets" of variable capacity, but often holding several gallons, a large piece of ice being thrown into the oysters and the cover locked.

In addition to this there is some shipping of Maryland stock, opened at Seaford, Crisfield, etc., in sealed tins. These are square cans, holding one or two "quarts", but the measure is somewhat short. They are filled with four-fifths of solid oysters and one-fifth pure water. A "case" of these cans may hold two or four dozen. The cans are not manufactured in Philadelphia, but in Baltimore, where the large local demand enables them to be made from one-half to three-fourths of a cent cheaper than elsewhere.

WHOLESALE TRADE.—The total wholesale trade of Philadelphia is now divided, so far as can be ascertained, among about 50 firms, which, if all dealt alike, would give to each a business of about \$60,000 yearly. Of course there is no such equality. Most of these dealers are also planters, furnishing the capital with which their boats, registered in New Jersey and Delaware waters, and manned by crews, residents of those states, plant upon ground outside of Pennsylvania's waters, and consequently held in some other name than that of their actual owners and operators. A large part of all the floating and shore-property credited to the shores of Delaware bay, and estimated in the preceding chapter, is really owned, therefore, in Philadelphia. To separate from this inter-state and partnership aggregate the capital invested by the oyster-dealers of Philadelphia, becomes as great a problem, therefore, as in New York. Some elements for the calculation appear in the following items:

Value of wharf-property devoted to oyster-vessels, exclusively, about	\$400,000
Value of sheds and shore-property	100,000
Value of perhaps 250 vessels, etc.....	300,000
Floating capital.....	400,000

But all these are hardly more than guesses, and it is out of the question, under the circumstances, to separate the oysters planted by Philadelphia capital from those outside of it, I suppose. It is perhaps safe to say, roundly, that in the city of Philadelphia a million dollars are concerned in the oyster-business, outside of the estimates of values already credited to New Jersey and Delaware. Of this sum about \$400,000 consists of outstanding credits and the bank balances needful to be maintained by the dealers.

The fifty firms represent about 75 members. Each may be said to employ an average of five men as clerks, teamsters, and porters, amounting to 250 in all. To this again must be added the 50 shuckers heretofore spoken of, making a total of 375 men, representing from 300 to 350 families, finding their support out of the wholesale handling of oysters alone in the city.

RETAIL TRADE.—As to the number supported by the retail trade, that can be approximated with even less exactness. The latest business directory of the city gives: hotels, 150; oyster-houses, 376; restaurants, 441; lager beer saloons, 1,452.

Supposing we say, that in order to meet the demands of the guests for oysters, cooked or raw, these establishments find it necessary to employ extra help as follows:

150 hotels, 2 persons each	300
376 oyster-houses, 5 persons each	1,880
441 restaurants, 1 person each	441
1,452 lager beer saloons, one-half person each	721
Total.....	3,342
Add peddlers and curbstone-stands, 158	158
	3,500

Many of these 3,500 persons are women and children, some of whom, nevertheless, assist in supporting others than themselves. In other cases various duties are combined with the service of oysters. But I think it within bounds to estimate 3,000 families maintained by this retail industry.

Dealings in oysters in Philadelphia are chiefly carried on at the foot of Spruce street, at the foot of Vine street, and at the Brown street wharves. In each case the locality is determined by the presence of a large provision-market, and the business in general fishing centers near it. At Brown street there is an association of the owners of boats selling there for mutual protection on questions of wharfage and the like. Most of the business is done at Spruce street, where the Jersey boats chiefly go, and where some of the heaviest dealers have their offices.

THE FISHERIES OF THE UNITED STATES.

STATISTICAL RECAPITULATION FOR PHILADELPHIA:

Number of planters, wholesale dealers, and shippers.....	75
Value of shore-property.....	\$100,000
Number of vessels and sail-boats engaged (registered in other States).....	250
Number of men hired by planters or dealers.....	250
Annual earnings of same.....	\$150,000
Number of restaurant servants, etc.....	3,500
Annual earnings of same.....	\$1,000,000
Total number of families supported.....	3,250
Annual sales of—	
I. Northern oysters.....bushels.....	1,740,000
Value of same.....	\$2,000,000
II. Chesapeake "plants".....bushels.....	940,000
Value of same.....	\$750,000
Total value of oysters sold annually.....	\$2,750,000

O. MARYLAND AND BALTIMORE.

45. OYSTER-FISHERIES OF MARYLAND.

THE INVESTIGATIONS OF MR. R. H. EDMONDS.—In respect to Baltimore and Maryland, the information to be given is due almost entirely to the labors of Mr. R. H. Edmonds, of Baltimore, who investigated the subject in the capacity of special agent of the Census. His report for this special region was published in the *Journal of Commerce*, Baltimore, of which Mr. Edmonds was an editor during the summer of 1880, and gave much satisfaction to those who were interested in the matter in that city and down Chesapeake bay. If some of his expressions are too enthusiastic, they can easily be pardoned. The men of Chesapeake bay believe that their waters cover the very best oysters in the world, but my note-books contain a record of a dozen localities, all along the coast, where the same assertion is fondly made and sincerely believed. He is a wiser man than I, who attempts to decide among their claims and, *ex cathedra*, to award supremacy to any one district.

I shall have little to add to Mr. Edmonds' history of the oyster-interests of Maryland, and include all of his report in quotation marks:

GENERAL CONSIDERATIONS: INTRODUCTORY.—"The Chesapeake bay and its numerous salt-water tributaries, contain prolific and valuable oyster-beds, probably about equally divided between the two states of Maryland and Virginia. Notwithstanding the great importance and value of the oyster-trade of the Chesapeake bay, it is a subject upon which there has been no trustworthy information, either as regards its extent, the amount of capital invested, or the past and present condition of the business. The legislatures of Maryland and Virginia have, at every session for many years, revised and re-revised the laws upon this subject for their respective states; but have always been content to work in the dark, knowing nothing practically, and never seeing the value of obtaining full information upon so important an industry. There is, perhaps, no subject of such vital importance to either state, that is so little understood. By some it is as greatly overestimated as it is underestimated by others. Many who have never lived near the water, and who gain their information from the rose-colored pictures, drawn by correspondents who see only the best features of the trade, imagine that an oyster-bed is a mine of wealth, from which every oysterman may gather a liberal competence with but little labor. Nothing could be more erroneous.

"The present report must, at the best, be but the basis for a more elaborate and thorough scientific examination of this subject. From the chaos in which I found the business, so far as regards statistical information, I have tried to evolve some facts and figures which, by showing the importance of the trade, may cause a more careful study to be made of the means to arrest the present depletion of the beds, and provide ways for increasing the natural supply of oysters. Until this is done, it is almost useless to hope for wiser laws than those now in existence, many of which are not worth the paper upon which they are written. There are so many widely-differing interests, each seeking, through its representatives in the state legislatures, to have such laws enacted as will protect its own particular branch of the trade, regardless of what may be desired or needed by other branches, that it is utterly useless to expect to please all. Politicians, however, dependent upon the votes of the unlearned as well as the learned, must seek by all means to please their constituents, however unwise may be their desires. The carrying out of this doctrine results in a conflict of opinion among legislators, and no one being willing to relinquish his own pet theories, much time is wasted in useless discussions; and, at last, when a bill is proposed, it is subjected to so many amendments that, when finally passed, it would scarcely be recognized by its originator. In this way the laws both of Virginia and Maryland, bearing upon the oyster-trade, are often worse than useless; and, if by chance a law should be good, the means of enforcing it, and the penalties for violating it, will be so inadequate